THE LANCET.

VOL. II.] LONDON, SATURDAY, MAY 23, 1840. [1839-40.

INQUIRY

INTO THE PRESENT STATE OF OUR KNOWLEDGE RESPECTING THE ORANG-OUTANG* & CHIMPANZÉE.

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THE materials from which M. de Blainville has drawn up his account of the Chimpanzée and Orang-Outang are so scanty, and obviously so little authentic, that it seems advisable to present the reader with a few remarks respecting them.

In every scientific inquiry, conducted in a straightforward and candid manner, and so as to entitle it to the confidence of the public, the authenticity of the materials upon which the inquiry is to be founded,—the sources whence they were obtained,—a general outline of their history,—how they were prepared,—and where they are to be found,—are, beyond all question, the first and most essential points. That this has not been done in respect to the Chimpanzée and Orang, we are now prepared to show, and trust to be able to prove to the satisfaction of the reader, that the natural and anatomical history of the adult of these two species of most interesting Simiæ have not as yet been laid before the public.

I.—OF THE ORANG.

The materials from which M. De Blainville has drawn his information, are, *first*,

A skeleton (*see Fig.* 21), presumed to be the adult Orang, removed by the revolutionary armies of France from Holland, and *not* restored,—a proof that the *great nation* had been dealt rather leniently with in 1815, when the combined forces of Europe demanded a restitution of the plundered goods in Paris. The original history of this skeleton is not stated, but this is of the less consequence, since it is clearly imperfect, artificial, and made-up. Some of the carpal bones are admitted by M. De Blainville to be formed of mastic. No correct anatomist, therefore, could ever think of drawing any positive conclusion from such a skeleton, so as to found generic or even specific characters.

M. De Blainville's suspicions with respect to the skeleton are manifest, from the want of all allusion to the sternebræ and many other important structures.

The next class of materials from which M. De Blainville has drawn his information, is the printed documents of English naturalists, and as these do not constitute positive materials, or what may be called *pieces authentiques*, in the strict sense of the term, that is, the objects themselves, not having been submitted to the immediate inspection of M. De Blainville, he has made as little use of them as possible, and treated them with a suspicion perfectly warranted by their history. These materials, which we have thus denominated indirect, *or non-authentic*, are chiefly comprised in a *paper by Mr. Owen, in the Transactions of the Zoological Society, vol. i., p.* 343, *communicated March*, 1835.

We venture to repeat, that in every anatomical inquiry it is absolutely essential that a concise catalogue of the materials,—a brief history of these, and where they are to be found,—ought first to be distinctly stated, without which, indeed, any inquiry, however ingenious, becomes altogether worthless. In this predicament, we believe, stands the Memoir alluded to; but the reader will judge for himself.

"Zoological Transactions," vol. i., plate 49, gives a "Side-view of the adult Orang-Outang (*Simia Satyrus, Linn.*), taken, by permission of the Board of Curators, from the specimen in the museum of the Royal College of Surgeons."

Thus we are informed that the engraving is taken from a specimen, now or lately in the museum of the Royal College of Surgeons, in London; but there are, unquestionably, two adult specimens in the museum, and alluded to, though obscurely, in the Memoir. It would appear that there is a natural skeleton of an adult Orang presented to the museum of the Royal College of Surgeons, London, by Lord Amherst; but, in addition to the difficulty of imagining how the articular surfaces, &c., of a *natural* skeleton

* See Fig. 21, p. 214.

could be given in so clear and precise a manner as is represented in the engraving, we observe either a singular inaccuracy in delineating the teeth, or, if correct, the head is evidently that of a young animal. To a most elaborately drawn-up table of admeasurements we find the following note:—"The admeasurements in this column (Adult Orang. Fæm.) are taken, by permission of the Board of Curators, from the skeleton in the museum of the Royal College of Surgeons, in which the absence of the cranial ridges, and some still-separated *epiphyses*, would indicate the non-attainment of full growth." We would suggest to Mr. Owen to look again at the teeth, more especially since he appears to admit in his Memoirs that the only original remarks he has to make are upon these organs, and from the examination of which he appears to imagine that he has found the young Orang to be specifically the same as the Pongo! The length of this specimen, from the vertex to the base of the os calcis, Mr. Owen states to be 4 ft., 1 in., 6 lin.

	ft.	in.	lin.
Length of the spinal column ..	1	11	6
Length of the arm from the head of the humerus.....	3	1	3
Length of the leg from head of femur to base of os calcis ..	1	9	3
(Length of the foot, 10 inches.)			
Length of the head, including the jaws	0	7	6
Greatest lateral diameter of the head at the post. auditory ridges	0	5	4

Mr. Owen, in speaking of the osteological differences in which the Orang has a closer approximation to the human structure than the Chimpanzée, p. 357, we find the following remark in a note:—"The skull of the *adult*, of which the *entire skeleton* is preserved in the museum of the Royal College of Surgeons," alluded to, &c. There must, then, be two skeletons of the adult Orang in the museum; for it is impossible that that engraved pl. 49, can be the one alluded to in this note. Mr. Owen has proved one of the two *not* to be adult; and we presume he means, that one presented by Lord Amherst, which appears to give a total length of only 4 ft., 1 in. 6 lines. The reader here is requested to observe how extraordinary all this appears to the inquirer after the unvarnished, simple truth.

Plate 50, "Zool. Trans.," vol. i., contains a front view of the Chimpanzée and Simia Satyrus. It is with the latter that we have to do at present. Mr. Owen gives the following description of this figure:—"The trunk of the latter (the Orang) is figured from the specimen belonging to the Zoological Society, and shows the normal number of lumbar vertebræ, which is the same as in the Chimpanzée. The proportions are given according to the size indicated by a *cranium*, *ulna*, and *radius*, in the museum of the Royal College of Surgeons; from which it would appear that the height of the animal, fairly measured, from the *vertex* to the sole of the foot, could not exceed five feet." We have thus presented to the public, in the Transactions of the first society in Britain, a *composition* figure, of which the *trunk* was taken from one animal, of which it appears no history whatever can be obtained; the *cranium*, *radius*, and *ulna* from another of probably an entirely different species; and the remaining parts of the figure are admitted to be purely ideal, there having been no material whatever before the artist. Now, to this it does appear totally unnecessary to add a single comment, for unquestionably there is not an anatomist in Europe who would pay the smallest attention to such a composition.

Plate 53, "Zool. Trans.," vol. i., represents the adult head of an animal, presumed to be the adult Orang, in the possession of Mr. Cross; no history whatever is given of the specimen; it is, therefore, not quite certain that it is that of an Orang.

These, together with an allusion to the cranium of an animal called by Mr. Owen Pongo, said to exist in the museum of the College of Surgeons, but respecting which no further authentic record is offered, are all the material alluded to in Mr. Owen's Memoir in respect to the adult Orang.

A question naturally arises here,—to what specimen did this cranium of the so-named Pongo, to which the above mentioned allusion refers, belong? Did it not form a part of Mr. Hunter's museum? Did it not belong to the same animal from which the *humerus* and the *radius* and *ulna* were borrowed? Many years ago we remember Mr. Clift's exhibiting bones of the Pongo, and contrasting them with those of O'Brien, the celebrated giant, whose skeleton at that time stood in the same glazed case with them! These are points essential to be cleared up in an authentic history of the Orang, but respecting which Mr. Owen, for reasons best known to himself, maintains the most profound silence. It is worthy of remark, and has excited in our mind a train of the deepest, I had almost added, *melancholy* reflections, that we have before us an extended Memoir, written, no doubt, in the centre of what once was the Hunterian Museum, and yet, throughout, there is not the most distant allusion to the name of Hunter or to his labours. What! did Hunter die without having seen the Orang, or even procured a skull of the animal? This we know to have been by no means the case; Mr. Hunter not only saw the Orang, but worked a great deal in its anatomy. Thanks to those arrangements of the noble patrons and curators of Mr. Hunter's museum, who appointed the son-in-law of Hunter to succeed Hunter, and

the son-in-law of Mr. Clift to succeed Mr. Clift.

These are the materials illustrative of the adult Orang, alluded to in this Memoir, and hence we must conclude that a perfect adult skeleton does not, so far as we know or can learn, now exist. The imperfections of that in Paris were long ago pointed out by Dr. Harwood, who alludes to the fact of there being only four lumbar vertebræ, and concludes that one must have been lost. Mr. Owen states that he has found only four in the young Orang; but we question much the accuracy of this, for reasons which will, by-and-by, be fully stated.

II.—Of the Chimpanzée.

The existing materials for the anatomical history of the adult Chimpanzée are stated by M. De Blainville to be, *first*, a cranium, referred to by M. De Blainville as being in the Parisian Museum. Of the authenticity of this we presume not to offer any opinion, although we do think M. De Blainville might have favoured us with such, if such exists.

Secondly, A skeleton, said to be adult, and in the possession of Mr. Walker, of London, and supposed by M. De Blainville to be the only one in existence. Of this skeleton a profile view is given in Mr. Owen's Memoir, "Zool. Trans.," vol. i., plate 49, and a front view at plate 50. Even of this skeleton it may be said that its authenticity is doubtful. The description of the plate does not state it to be that in the possession of Mr. Walker, but we can gather the facts by a laborious perusal of the Memoir. M. De Blainville has availed himself of the account submitted to the public by Mr. Owen, although he has never seen the specimen itself, evidently on account of its being the only specimen known to scientific men. Mr. Walker, unfortunately, does not vouch for its authenticity, and a story is told about its mode of preparation, which, to say the least of it, adds but little to the authenticity of the specimen. As represented upon the engraving, it would seem to be an artificial skeleton; but not a word escapes the author of the Memoir enabling the reader to draw any certain conclusion as to its being a *natural* or an *artificial* one, for whilst in one part of the text the *Ants* are described as having made a *natural* skeleton of it, in another part it is said "to be very carefully articulated."

Page 7, plate 50, gives, as we have said, a *front view of* the same skeleton, and thus it must be clear to every practical and really scientific anatomist, that very great liberties have been taken with the specimen. We should like to be informed in what position or state it was ultimately left, and now stands. M. De Blainville, apparently offended with the erect position of the very celebrated Holiando-Parisian Pongo, has taken the liberty (we think a very great one) of making the old fellow assume the quadruped form, and of course greatly diminished the height, and, consequently, the pride of the quondam Hollando, but now Parisian Orang, or Wild Man. He, the Pongo, has to this day, it would seem, no adult relations, living or dead; but the Chimpanzée is now pretty universally considered a superior race of wild men, and we trust that he now stands on the "*soles of his feet*," and "as large as life."

But why should we have the history of so valuable a preparation at second hand? Would it not be much better to invite Mr. Walker, who possibly may be in London, to give a plain statement as to particulars, which are unquestionably of the highest interest to all anatomists and naturalists.

General Observations.

Seeing that the materials are so scanty, it may fairly be inferred, that neither the adult Chimpanzée nor the Orang-Outang have been either dissected or even seen in Europe, and that perfect skeletons of these most interesting Simiæ are still a great desideratum.

The pompous display of measurements and comparisons of the presumed Chimpanzée with the Orang, and the attempt to show specific differences between them, is purely an *ex post facto* inquiry, based on the presumption that one specimen was African the other Asiatic. The various comparisons between the Chimpanzée and Orang, drawn by Mr. Owen (for M. De Blainville, no doubt, disliking extremely the materials, as connected with the Orang more particularly, has not broached the subject) appear to us to amount to nothing; the most striking statement, which, however, is by no means proved in Mr. Owen's paper, is the nearer relative proportions of the limbs in the Chimpanzée to those of the human type. The non-development of crests on the cranium of the Chimpanzée cannot, we think, be considered of much importance, since we have already shown that the crania of the Gibbons, however aged, present an equal degree of smoothness with that of the Chimpanzée. Mr. Owen, in his Memoir, in treating of the sutures of the cranium, remarks, "that in the adult Orang that small suture by which the *ala* of the sphenoid joins the descending angle of the parietal, and separates the frontal from the temporal bone, is present, whilst in the Chimpanzée it is not," and in this respect he considers the Orang to approach more closely the human type; and he adds this remarkable and astounding note: "This affinity is of less value from the fact of some of the inferior(!!!) races of man occasionally presenting the same arrangement of these sutures as the Chimpanzée. I have observed the junction of the temporal with the frontal bone in the *cranium* of a native of Australia, and in more than one negro. I have also observed the same disposition in one of eight

crania of the Simia Satyrus (*Orang*); this exception occurs in the skull of the adult, of which the entire skeleton is preserved in the museum of the Royal College of Surgeons." Now, in 1821, I described to the Wernerian Society in Edinburgh the cranium of the Caffre race, having brought three crania from Africa. In that Memoir I stated the fact, that in these three specimens, one now in my own museum, a second presented by me to Dr. Monro, a third presented by me to Professor Jameson. This very union, or *non*-union of the alæ of the sphenoid with the parietal, although in itself curious, was still of little importance, seeing that both conditions were found in the three Caffre skulls, and that the *non*-union was rather common even in the finest European crania. That Mr. Owen should have been ignorant of this fact—that he should have supposed himself the first observer of it, and as placing the Orang in closer affinity with man than what he is pleased to call the *inferior* races of the human family, are circumstances only exceeded by his not apparently having observed, that in plate 57 he gives a profile view of the skull of a human idiot, in which the spheno-parietal suture is more extensive than we find in most European skulls; yet he remarks on this cranium, that "Nature may be said to have performed for us the experiment of arresting the development of the brain almost exactly at a size which it attains in the Chimpanzée, and where the intellectual faculties were scarcely more developed."

Mr. Owen states, and considers as specific, that the Chimpanzée has only one anterior condyloid foramen, whilst there are two in the Orang. We beg leave to inform Mr. O., that there is nothing so common as two anterior condyloid foramina in the human structure.

We gather from the Memoir that the vertebræ, composing the spinal column in the Chimpanzée and Orang, stand as follows:—

	C.	D.	L.	S. & Coc.
Chimpanzée	7	13	4	7 = 31
Orang	7	12	4	8 = 31

Anatomists have, we think, generally enumerated the human vertebræ as

C.	D.	L.	S. & Coc.
7	12	5	9 = 33

And thus, if the number in the Chimpanzée and Orang have been correctly stated in Mr. Owen's paper, man has two vertebræ *more* than either the Chimpanzée or Orang; and, further, that these additional vertebræ are most suspiciously placed towards the *caudal* extremity of his spinal column!

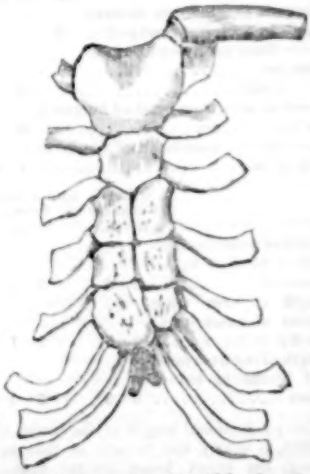
Mr. Owen, at p. 350 of his Memoir, states "the false *vertebræ* (meaning, no doubt, the sacral and coccygeal) in the adult skeleton of the Chimpanzée, are seven in number, but the sixth is anchylosed with the sacrum, both by its body and transverse process, so as to give rise by that union to an additional pair of antero-posterior, (we presume the author means anterior and posterior) sacral *foramina*; the sixth *vertebra* is not, however, perforated (!) like the five preceding ones for the spinal chord." If Mr. Owen applies the term "perforated" to the canal for the medulla spinalis, we really must question, altogether, his views regarding the progressive development of the skeleton; that the so-named sacral canal is often *open* posteriorly, even in man, in consequence of the non-development of the various osseous arches peculiar to the vertebræ, which, by their consolidation in most mammals form the sacrum, is a fact which most anatomists perfectly understand; but to call the sacral canal a perforation, is an expression which we feel assured no anatomist would think of using. In *man* the number of vertebræ composing the sacrum, in most well-formed specimens, is five, but in a great number of specimens we find six. A question has arisen, whether it is the last lumbar or first coccygeal which constitutes this sixth sacral vertebra, and the inquiry is interesting, inasmuch as cases are recorded where only *four* lumbar vertebræ were said to have been found in the human subject. We have ourselves seen *no* such case; and it would clearly require the entire skeleton to prove the fact, for it is very evident that the last lumbar may, in a few cases, unite with the first sacral, by the ossification of those very peculiar ligaments which connect them; but this circumstance can be readily detected by observing, as we have already pointed out, whether or not the doubtful vertebra aids in composing the sacro-iliac synchondrosis; if it does, and only four lumbar vertebræ be found, then there must have been one fewer than the normal number in man, for it by no means constitutes a vertebra, a *sacral vertebra*, that it is ossified to the iliac bones. But in all the specimens in our museum, and there are upwards of forty, we do not find one with the last lumbar united, although seven of them present, distinctly, the appearance of being composed of six vertebræ; we feel quite certain that it is the first coccygeal which constitutes the additional one; and it is exceedingly interesting to find a similar arrangement in the Chimpanzée, even although that is the only one which has ever been minutely examined. We, however, may not have understood Mr. Owen's description, for his term "*perforated*," we must confess, astonished us not a little; and what is perfectly inexplicable, in his front views of Mr. Walker's Chimpanzée, plate 59, the coccygeal extremity is so terminated, that we must at once conclude that all the coccygeal vertebræ were *not* present. Two more coccygeal vertebræ would bring the total number up to 33, the precise number in man. This appears to be a circumstance well worthy of attention, and we respectfully suggest an immediate re-exami-

nation of the skeleton. The number of vertebræ, anterior to the sacrum, appears to be the same in the Chimpanzée as in man, only the Chimpanzée possesses his thirteenth rib (reducing the number of lumbar vertebræ to 4), and which Mr. Owen ought to recollect was taken from man to construct his better half, reducing the number in man to twelve, although thirteen have not unfrequently been found. In our own Museum, there is a specimen in human structure, in which the additional rib or the 13th, is supported on the last cervical vertebra; but cases have occurred where it was found on the 20th vertebra, or first lumbar. The Orang, from all hitherto published accounts, authentic and non-authentic, has 12 pairs of ribs; and if the number of lumbar vertebræ were equally well ascertained to be four, then there would be proved a distinct and well-marked specific difference, not only between him and the African animal, but also a clear proof that the Orang was not a man. Unfortunately, Lord Amherst's specimen has *five* lumbar vertebræ, and, in so far as we can observe, this specimen is the most authentic in existence at present.

The state of the sternebræ in the Orang is considered, by Mr. Owen, to be specific; at page 363 of the "Zoological Transactions," we find it stated, "that the sternum is composed, below the manubrium (first bone), of a double row of small bones, seven or eight in number; this structure is always obvious in the Simia Satyrus, or young animal, and in the skeleton of the Pongo (?) (we ask what skeleton is here alluded to?) preserved in the museum of the College of Surgeons; the four upper bones are still separate, and traces of the *harmonia*, which join the four lower bones, are very evident. In the young and adult Chimpanzée, the sternum is composed of a single series of bones, as in most other mammalia. In the human subject, although at the early period of o-sification, a single series of ossific centres appears, yet at a later stage the lower part of the sternum is frequently seen to be composed of a double series of bones." Now, we had thought that all scientific anatomists had agreed in opinion, that the sternebræ composing the adult sternum, although usually appearing to grow from single and mesial centres of ossification, in reality, at a very early period of fœtal existence, grow from a series of lateral centres; these minute centres, uniting mesially, in most instances, almost at the commencement of fœtal life.

Are we to consider this as a proof of degradation of structure? But Mr. Owen labours to find specific differences, and he seems to have taken up an idea (we are at a loss to conceive from what data) that the normal number of lumbar vertebræ in the Orang is, or should be, *four*. So determined is he to have it so, that finding *five* in the skeleton presented to the museum by Lord Amherst, he boldly states this to be abnormal, and this seems to have been one of his reasons for constructing a skeleton of his own creation, as seen in his plate 50. As we feel pretty confident that *Mr. Owen cannot*, or, at all events, could not, in 1835, state what are *lumbar*, what *sacral*, what coccygeal vertebræ in the *young* animal, we feel confident that this distinction between the Chimpanzée and Orang, and the Orang and man, will not hold; but, in some cases, though fortunately very rare, the median division remains, whilst in other cases the cartilaginous union is complete; but the right and left centres of ossification have not, to a greater or less degree, coalesced. We possess in the museum no fewer than five specimens of the human sternum, in which there is a hole (*not* perforated) near the bottom, of what the human anatomist has named the *body* of the bone, and which clearly indicates that dangerous tendency of the original primitive division of the right and left sternebræ not to coalesce. The manubrium, or first thoracic sternebra, and which is evidently the most important of the series, in the structure of Mammals at least, has not been found, so far as we can observe, presenting the appearance of a right and left centre of ossification; but the other sternebræ by no means unfrequently are in this state. The most perfect specimen in human structure which we have ever seen, exists in our own museum, and we here add a greatly reduced sketch of it; it is that of an adult male.

Sternum of an Adult Male Human Subject, viewed from its Peripheral Aspect.



It is rather singular, that, if the drawing of the sternum in the Chimpanzée, given by Mr. Owen in plate 49, is correct, it is by no means so near an approach to the human

form as that of the Gibbon; and it seems quite inexplicable to us that Mr. Owen has not given a view of the Orang's sternum, more especially as he proposes to found specific distinctions upon it.

The hyoid apparatus, *or as hyoides*, as Mr. Owen calls it, is stated by him "to have a broader body and shorter cornua in the Orang than in the human subject," and that the body is not hollowed out as in the Chimpanzée. There is no delineation of this structure given in Mr. Owen's Memoir, and we may remark that, out of no fewer than fourteen specimens now before us of the human cephalic vertebræ, or hyoid apparatus, there are not two precisely similar. The *body* of the apparatus is, without exception, more or less *excavated* posteriorly.

Mr. Owen states, p. 369, "the principal feature of the organisation of the Orang, and that in which it differs most from the Chimpanzée, is in the relative length of the upper and lower extremities;" and this does appear from the measurements to be considerable, but correct data are wanting sadly. From the table annexed to the Memoir, and part of which we have copied, it would appear that the anterior and posterior limbs are nearly of equal length in Mr. Walker's Chimpanzée, and that they both greatly exceed in length that of the trunk. In Lord Amherst's Orang the anterior limbs greatly exceed in length the posterior, the latter being so short as not even to equal the length of the trunk. In a well-proportioned human *artificial* adult skeleton, now before us, we find the measurement as follows:—

	in.	ft.	in.
Diastemic length, from incisive teeth to occipital condyles ..	4		
——— from condyles to tip of coccyx	28		
Total		2	8
——— of arm, from head of humerus to tip of fingers		2	5
——— of leg, from head of femur to tip of toes.....		3	6

	M. Walker's Chimpanzée. ft.	in.	Lord Amherst's Orang. ft.	in.
Length of trunk from incisive teeth to tip of coccyx	2	0	2	5
Length of arm from head of humerus to tip of finger	2	5	3	1
Length of leg from head of femur to tip of toes	2	3	2	1

The proportional length of the limbs, then, in man, is nearly the reverse of that in the Orang, the trunk being longer than the arms, but greatly shorter than the legs, in man; whilst in the Orang it (the trunk) is shorter than the arms, but longer than the legs. In the Chimpanzée the arms are still (as in the Orang) a little longer than the legs, but the trunk is shorter than either. All this appears to us to show no proof of degradation in structure in either one animal or another. The length and strength of arms in the Orang gives him, no doubt, a great superiority as a wild man of the woods; and when man has an unusual length and strength of arm he becomes a kind of wild man—a Rob Roy—who, by-the-by, was actually used by his own species as a sort of wild man. The human form, in respect to his limbs, suits him apparently better for living in towns, and parading along the pavements of cities, while the Chimpanzée seems to hold a middle course, inferior to the Orang as a man of the woods, and to a human creature as a citizen.

The Orang is said to be without the *ligamentum teres*, or round ligament; and if it is proved to be universally absent, it would, most unquestionably, constitute a specific variety. We would merely remark, that Dr. Clark, of Cambridge, some years ago, informed us that he had met with two cases in man where this ligament was wanting on both sides, and we believe that we were the first to show its absence in the Ornithorynchi. Mr. Owen states it to *be absent* in the seal. Now, we have invariably found it present, in those seals, at all events, which frequent the Frith of Forth. But the conclusions to which Mr. Owen arrives in regard to the design of the *non*-development of this structure in the Orang, are most astounding, and argue a want of knowledge which we could not even have dreamt of. He states that the want of this ligament will necessarily give a greater freedom of motion to the hip-joint, converting it into an articulation similar to the shoulder-joint in man! Does he suppose, for one moment, that the articular surfaces in healthy joints leave each other in the various movements which the limb may be called to perform? Is he not aware, that in amputations at the hip, or even shoulder-joint, the assistant has forcibly to dislocate the limb? Is he not aware that the moment one surface of a joint has quitted the opposing articular surface, a dislocation has taken place, and, until restored, the animal, whether man or any other, possesses no power whatever over the so-dislocated limb? The ligamentum teres in man can evidently, in no shape, limit the universality of motion possessed by the limb; but, in brief, so close are the surfaces of the os femoris and acetabulum to each other, that in the dead subject the muscles may be dissected off, the capsular ligament and synovial capsule completely divided, and the joint, properly speaking, thus fully exposed; and yet, if all this has been done with ordinary care, the entire limb will remain suspended to the trunk without the femur quitting the surface of the acetabulum, although, when once fairly twisted out, every one knows that the liga-

mentum teres is of such length as to allow the head of the femur not only to quit the acetabulum, but to roll round the margin of that cavity. The true physiology of the ligament has, unquestionably, not been given; and it is very clear that Mr. Owen will not supply this want by his attempts to illustrate design in the animal economy.

The patella is said, by Mr. Owen, to want that highly characteristic ridge which, in man, divides its articular surface into two unequal parts. The truth, however, is, that the patella in the Orang *has* the ridge, and *wants* the two lateral articular surfaces; the form of this bone in man is, in fact, very peculiar, and perfectly unlike that of any other mammal.

The great toe is said to want the distal phalanx in the Orang, and this statement has been remarked on by M. de Blainville; but Mr. Owen states that, *both the phalanx and the nail*, which it supports, were found to be present in an Orang described by M. F. Cuvier. It also appears, that they were present in a specimen dissected at the museum of the Zoological Society (October, 1830), and they are, unfortunately (as Mr. Owen would seem to think), present in Lord Amherst's skeleton of the Orang. The shortness of the great toe, however, is still brought forward by Mr. Owen as a *specific difference*; and although in the letter-press, p. 367, of his Memoir, Mr. Owen distinctly states that the great toe has two phalanges, *in addition* to the metatarsal bone, in Lord Amherst's skeleton of the Orang; yet, in the figure given of that skeleton, plate 49, there is only one phalanx delineated; and, what is truly inexplicable, and defies all calculations, the phalanx represented is evidently of the form of the *distal*, or nail-bearing phalanx.

System of Dentition.

From a note, at the foot of page 359, "Zool. Trans.," vol. i., we learn that Professor Rudolphi, in a paper published in the "Berlin Transactions" for 1824, p. 131, having carefully examined the dentar system in the young Orang, pointed out the large size of the germs of the permanent teeth, and inferred from them, that the adult Orang must equal in size the Pongo of Wurmb. Mr. Owen, in his Memoir, follows the same course in 1835, only nine years after Professor Rudolphi, and by comparing the permanent teeth cut from the interior of the jaws, and whilst the deciduous teeth were still all present in a Simia Satyrus, and comparing these with the teeth of a specimen of the Pongo of Wurmb, he finds them exactly to correspond, and thus concludes that the Simia Satyrus is the young of the Pongo.

In a young Orang (Mr. Owen states, p. 359,) with three molars in use on either side of each jaw, it is easy to see that the last is of a different set from the two smaller ones that stand before it; its grinding surface exhibits the *cuspides* entire and sharp, and all the radiating furrows, as if freshly impressed upon it, while the same surface in the deciduous *molares* is smooth, the crown worn down, and part of the fangs protruded from the socket." It would appear from the manner in which Mr. Owen found the permanent teeth imbedded, that they will protrude in the following order:—

Upper Jaw.

1. Second or small incisors.
2. First or great incisors.
3. First bicuspis.
4. Second bicuspis.

First true molar has already taken its place in the dentar series.

Second true molar, crown only formed and lodged deep in the jaw.

Third true molar, or *dens sapientiæ*, indicated merely by a little shrivelled membrane, exhibiting specks of calcareous matter, but deposited in a wide socket.

Lower Jaw.

The crowns of the permanent teeth are situated in nearly the same relative position as in the upper. The conical extremity of the crown of the great *laniary* (Mr. O. has not alluded to this with regard to the upper jaw) is lodged deep in the jaw with the *apex* projecting into the interval between the second incisor and first bicuspis. In plate 53, Mr. Owen gives a profile view of what is called, on the plate, *Simia Satyrus*, but which, after no small labour, we found to be a drawing of a head in the possession of Mr. Cross, and without a history of any kind. The permanent teeth, upper jaw, cut from their sockets in a young Orang, are also represented, and do correspond, to all appearance, pretty nearly with those in the jaw of the head. Plate 54, gives a view of the dentar aspect, or base of the same cranium, and, consequently, the triturating surfaces of the teeth are seen; and it does appear to us, with all due deference to the artist, that the tooth marked *g*, or *principal* molar (*first true molar, Owen.*) could never, by any system of trituration, be worn down to the form and size of the analogous tooth in the skull. The teeth marked *d* and *e*, also, are evidently larger and much more tubercular than the analogous teeth in the jaw, looking, in fact, more like two deciduous molars than the two permanent ones, which are, in man, at least, much smaller than the deciduous and truly bicuspid. But aware of the difficulty of reaching precision, even in the most expensive style of engraving, we should not have mentioned these facts were it not that, upon referring to plate 49, representing Lord Amherst's adult Orang, we observe these teeth evidently in a state neither agreeing with the young Orang (Simia Satyrus, Owen) or with that skull represented in plate 53, marked, also, Simia Satyrus, but which we presume to be

that cranium belonging to Mr. Cross, and alluded to in the text as being an adult Orang (Pongo of Wurmb.)

It would appear, p. 361, that a Dr. Jeffries (Phil. Mag., vol. 67, p. 186, 1826) has given an account of the dissection of an Orang, which measured 3 feet and 6 inches in height. The permanent incisors had advanced to their proper place, the middle ones measuring $\frac{7}{8}$ of an inch in length, and $\frac{4}{8}$ in breadth. These dimensions are said, by Mr. Owen, to correspond precisely with the same teeth in the Pongo.

At page 354 of Mr. Owen's paper, we find that so great is the difference between the skull of the young Chimpanzée and that of the adult, that most persons would entertain doubts as to the specific identity subsisting between them; but Mr. Owen, who himself, it would appear, entertained these doubts, proceeded to follow the plan pointed out by Professor Rudolphi, in 1824; and comparing the crowns of the permanent teeth, found within the jaws of the young Chimpanzée, with those which had replaced the deciduous set in the adult skull, he found the resemblance in point of degree and size to be exact, and proved, as he thinks, the Pigmy of Tyson to be a Chimpanzée, and not an Orang; but Mr. Owen, previously, knew perfectly that Tyson's animal was from Africa, and to offer, in 1835, additional proofs that Tyson's Pigmy was a Chimpansée, and not an Orang, was, to say the least of it, a work of pure supererrogation.

COURSE OF LECTURES

ON THE

DISEASES OF THE EYE,

Delivered in 1839-40,

AT THE

ROYAL SCHOOL OF ANATOMY AND MEDICINE,

MANCHESTER,

By JOHN WALKER, Esq., Surgeon.

LECTURE IX.

DISEASES OF THE CORNEA.

In the preceding lectures, when speaking of the diseases of the conjunctiva, I have had occasion to refer so frequently to some of the morbid conditions of the cornea, as in some measure to anticipate what I have now to offer on the diseases of this latter structure. You will, nevertheless, discover, that my remarks on the various topics connected with the diseases of the cornea, are as yet very far from being brought to a conclusion; I now, therefore, proceed to speak of them in a more systematic and detailed manner.

You will remember that I have often observed, of affections of the conjunctiva, that they are of no real importance, except so far as they influence the condition of the cornea; this they are particularly apt to do; for not only is the cornea covered over with a layer of conjunctiva, but the vessels of this latter membrane are continued directly into the texture of the former. Hence, the common occurrence of disease of the cornea, supervening upon that of the conjunctiva; and it is a fact, that a very large proportion of affections of the cornea result from some prior morbid state of the conjunctiva.

The great importance attaching to diseases of the cornea is, as I have so frequently explained, that they are exceedingly apt, permanently, to impair the transparency of its texture, and, consequently, by intercepting the rays of light in their passage to the retina, materially to injure, if not actually to destroy, the function of sight.

We are all of us perfectly familiar with the beautifully clear, pellucid appearance of the cornea when in its normal condition; in this respect, it is not inferior to any of the other transparent portions of the organ.

Of all the transparent structures of the eye, the cornea most frequently exhibits the phenomena of disease: much of this liability to disease, no doubt, results from its exposed situation, and, as I have said, from its connection with the conjunctiva. But much of it also depends upon the higher degree of vascularity which the cornea possesses, for there can be no doubt that it is much more vascular and more highly organised than the other transparent structures; and we find that, as these structures assume more of the character of inorganic and less of organic bodies, they likewise exhibit a less disposition to fall into disease. Thus, the cornea is more frequently the subject of morbid action than the crystalline humour, the crystalline more frequently than the vitreous, whilst the aqueous is almost entirely exempt.

But, it will be said, the cornea is more frequently the seat of disease than the sclerotica or the iris,—structures more vascular and more highly organised than the cornea itself. We must not forget, however, that most of the diseased conditions of the cornea are, in reality, only affections of its conjunctival covering, and that others are merely secondary affections, resulting from the extension of morbid action from the conjunctiva into the substance of the cornea, whilst the idiopathic affections of the cornea are, in reality, of very rare occurrence.

One striking circumstance, in the economy of the cornea, is the entire absence of red vessels; and, indeed, it frequently happens that it is subjected to every grade of inflammatory action without a single trace of vascularity being observed. Thus, there may be inflammation, ulceration, and mortification of this structure, and not a single vessel be apparent. Notwithstanding this, we

cannot entertain the slightest doubt that the cornea is plentifully supplied with blood; but the nutrient principle is so modified, whilst circulating in the corneal vessels, that no colouring matter is deposited within its texture, the deposit being perfectly transparent and colourless. On some occasions, however, as I shall afterwards explain, the cornea becomes exceedingly vascular, and the vessels are distended with red blood.

As the various diseased conditions of the cornea are more or less dependent upon inflammatory action, I shall first allude to inflammation of the cornea; or, as it is technically named, *corneitis* or *keratitis*.

Corneitis, or Keratitis.

Now, in those cases of conjunctivitis in which the cornea has become affected, either with opacity, ulceration, pustules, or sloughing, there can be no doubt that, in all such cases, the results are attributable to inflammation having attacked the cornea itself, or at least its conjunctival covering. The absence of red vessels, when the cornea is diseased, is no proof of the non-existence of inflammatory action, any more than their absence in the condition of health, is a proof that the cornea is an inorganic body. When we observe that an opaque matter is deposited in the substance of the cornea, it is clear that this results from disordered action of its secernent vessels; and it is equally certain that an ulcerous excavation can result only from a morbid action of its absorbent vessels. The existence of both of these orders of vessels, then, though they are invisible to the eye of the observer, is clearly established by the phenomena of disease which the cornea presents; and when, in the one case, we find that the opaque matter, deposited during the continuance of the diseased action, is removed after the healthy action is restored; and, in the other, that the excavation is filled up by the secretion of new substance, it is obvious that these morbid states of the cornea are the results of disordered vascular action or inflammation.

Disordered vascular action, then, may clearly exist, although the vessels do not present themselves to view; but it is only in the early stages and the more active forms of inflammation of the cornea, that there is an absence of red vessels. After the inflammatory action has continued for some time, it is quite common for them to appear; they are most frequently seen immediately under the conjunctival surface, and first of all just around the circumference, exceedingly minute, and sometimes clearly discernible only by the aid of a lens, when they impart to this portion of the cornea a distinctly red appearance,—a red zone encircling the entire margin of the cornea. This zone can hardly be confounded with that which is formed by the vessels of the sclerotica, when this latter texture is inflamed; the former is of a deep-red colour, and is continued directly from the conjunctiva upon the surface of the cornea; the latter is of a pink colour, seated under the conjunctiva, and there is always a white circle intervenes between it and the margin of the cornea; gradually the redness and vascularity extend more and more from the circumference towards the centre, and frequently the whole of the cornea presents this deep-red, vascular appearance. In some instances, of course, the vascularity is but partial, half of the margin of the cornea only being thus affected; in others it is still more limited.

This vascular condition of the cornea, however, as I have said, is not observable in the early and acute stage of inflammation, and is generally the result of an extension of morbid action from the conjunctiva, the vessels being clearly seen to be continuous from the latter membrane into the texture of the cornea.

Idiopathic corneitis, or that inflammatory condition of the cornea which arises independently of conjunctivitis, must be a very rare affection. Inflammation of the cornea, indeed, is almost always so mixed up with conjunctivitis, as to render it difficult to decide which is the original affection; but still, in cases of injury, such as the impaction of metallic particles, and the like, in the substance of the cornea, we must suppose that the inflammation which results is independent of that of the conjunctiva.

The *symptoms* which the cornea itself exhibits, when it is the seat of inflammation, are somewhat variable. In the early and acute stage of the disease, properly called corneitis, the surface of the cornea is sometimes covered with a great number of minute ulcers, as if it had been pricked all over with some sharp instrument, producing an uneven, scabrous appearance; there is generally more or less haziness of the lamellated texture of the cornea observed. By the term haziness, you are to understand, a degree of cloudiness of the cornea, of an exceedingly dull and smoky hue, the very opposite of the white, pearly opacity so commonly seen on its surface; sometimes the haziness is slight and partial, so as to interfere but little with the transparency of the cornea; at others it is so dense and general, as to prevent the iris from being discerned through it.

The haziness, when general, not only destroys the transparency of the cornea, but likewise imparts to it a degree of coloration. In some instances the colour is a dirty brown; in others it is of a greenish tint; and in others, again, it is of a deep-red. Occasionally, there is an intermixture of white opaque streaks, or patches, with the dark haze, the latter usually predominating.

When the morbid action has continued for

some time, as I have before intimated, the vascularity of the cornea is strikingly developed; red vessels are seen spreading over its surface, the haziness is more and more intense, until the whole of its texture becomes of a deep red, or brownish-red. In this state, the cornea looks somewhat as if it were covered with a piece of red cloth, and hence it has been termed, by some authors, *pannus*. Velpeau, perhaps with as much correctness, compares the appearance of the eye, in this condition, to a red cherry. Frequently, too, the figure of the cornea becomes altered; it projects somewhat, as if staphyloma were about commencing; but this condition is generally found to disappear as the diseased action subsides. In this case, moreover, the size of the anterior chamber, and the quantity of aqueous humour, are usually thought to be somewhat increased.

Instead of the hazy, coloured appearance which I have described, sometimes there is a white, milky opacity, affecting the substance of the cornea, and causing it to bear a considerable resemblance to ground glass. The appearance, in this case, is such as to excite in the mind of the observer the idea of the opacity being deep-seated, and occupying the lamellated texture of the cornea, its surface seemingly remaining transparent. This opacity, however, is far from always occupying the entire substance of the cornea, as we sometimes observe opaque patches here and there, with intermediate transparent spaces, and in some cases only a single nebula, of course varying considerably in size and situation. Nor is the opacity always limited to the lamellated texture, although in the true corneitis this is the portion principally affected, for, in some instances, I have satisfied myself of the existence of opacity of all the textures simultaneously, in one part confined to its conjunctival covering, in another to the proper substance of the cornea, and elsewhere to its internal lining.

These, then, are the principal phenomena which are presented by the cornea itself, when it is the seat of a high and protracted degree of inflammation. But the inflammatory action is rarely confined to the cornea. You will almost invariably find that the vessels which traverse the conjunctiva and sclerotica, more particularly the former, are exceedingly numerous and turgid. When there is decided vascularity of the cornea, this is certain to be the case. In those instances in which the cornea exhibits the appearance of ground glass, I have observed that there is sometimes but little vascularity of the conjunctiva or sclerotica witnessed, and then the cornea itself is exempt from this appearance.

In this, as in most of the inflammatory affections of the eye, we generally find there exists more or less uneasiness or pain in the organ and surrounding parts, morbid sensibility to light, and increased flow of tears. The degree in which these symptoms are developed is exceedingly variable. Probably, much depends upon the peculiarity of the individual constitution affected. In strumous subjects we may expect them to be more marked than in others.

There is one peculiarity in connection with the subject of intolerance of light I will mention, which is, that in some of the worst cases of corneitis I have witnessed,—cases in which the cornea was extremely vascular, and so densely opaque, that not a particle of light could be transmitted to the retina,—the dread of light was nevertheless of the most marked intensity.

Of the *causes* which operate in the production of corneitis, I can say but little. They are usually the same as those I before enumerated as giving rise to conjunctival inflammation, of which, as I have more than once observed, corneitis is generally but a sequel. Foreign substances penetrating the cornea, scratches, wounds, &c., will, however, frequently excite a direct attack of corneitis.

It rarely happens that both eyes are simultaneously affected with an intense degree of corneitis; but it is very common to find one eye attacked first, and the other, sooner or later, taking on the same character of disease.

Respecting the *treatment* of corneitis, it will be unnecessary for me to enter much into detail, since my views of the management of conjunctival inflammation have already been very fully explained. You have seen, likewise, that the circumstance of the cornea participating in the morbid condition of the conjunctiva has, in no instance, induced me to alter my plan of treatment. Indeed, I do not perceive by what method of reasoning it can be shown that the line of treatment, suitable for affections of the conjunctiva, is unsuited for those of the cornea, the more so as it is pretty clear that the vessels of the former are directly continuous into the latter texture.

As in conjunctival inflammation, so in corneitis, it will, I apprehend, be rarely necessary to resort to blood-letting, counter-irritation, mercury, or the ordinary antiphlogistic treatment, generally. Blood-letting may be proper in a very acute case, which has been induced by injury, and occurring in a strong, plethoric person. Counter-irritation is, according to my experience, not likely to produce any material benefit. Mercury is often very highly extolled in cases where there is an opaque matter deposited between the lamellæ of the cornea. My own view, however, is opposed to the use of mercury in such circumstances, particularly when the affection is of an asthenic character, or when it occurs in persons of a

strumous diathesis or of a delicate constitution, which it is especially apt to do.

In the treatment of corneitis, I do not conceive that antiphlogistic remedies are of much real service; at all events, they are generally unnecessary. If the affection be complicated with sclerotitis, and more particularly if there be iritis present, or, indeed, if there seems good reason to suppose that the latter is likely to supervene, then I agree that antiphlogistic treatment may often be needed; but, if the morbid action be principally in the external tunics, by which I mean the conjunctiva and cornea, then such treatment may be usually dispensed with.

The treatment I have found most effective in cases of corneitis has been the stimulant, and I prefer the use of the nitrate of silver in substance. It is to be applied to the conjunctival surface of the inferior lid, precisely as for a case of conjunctivitis. In addition, I generally recommend the use of a solution of either sulphate of zinc or sulphate of copper, with the application of the red precipitate ointment at night. If the intolerance of light be excessive, and the external irritation considerable, I should prefer the decoction of poppies, or a solution of the extract of belladonna. This mode of treatment I have often found to succeed in cases which had long resisted the ordinary antiphlogistic remedies.

Whatever be the treatment adopted, you must expect that in very many instances recovery will be of slow progress, more particularly in those cases in which the cornea presents the appearance termed pannus. In this condition, always the result of long-continued inflammatory action, the vessels are so much enlarged and relaxed, that it will be a period of many weeks or months before they can be made to shrink and disappear. In this description of cases I cannot understand what good is to be expected from the employment of blood-letting or mercury. According to my experience, stimulating applications alone are productive of benefit; these may be brought into immediate contact with the relaxed and distended vessels, and, sooner or later, produce first, their contraction, and afterwards their final disappearance, together with the removal, either completely or partially, of the haziness or opacity.

Strumous Corneitis.

I must not conclude the subject of corneitis without making a few observations on what is termed *strumous corneitis*. I have already explained, that in the ophthalmia of strumous subjects, there is nothing peculiar except in the intensity of certain of the symptoms, and that there is nothing in the appearance of the organ itself which could lead a practitioner to say of any individual case that it is strumous or otherwise. This is precisely the case when the cornea is the seat of the inflammation; there is nothing in the appearance of the cornea itself that would enable us to say that such is a case of strumous corneitis. I am the more particular in pointing this out, because Dr. Mackenzie has devoted an entire section of his work to what he terms scrofulous corneitis; and what is singular, and has been the subject of criticism in other quarters, is, that he seems to suppose that corneitis never occurs except in connection with scrofula,—certainly a most erroneous notion.

I will now briefly mention two or three cases of corneitis, which will serve to illustrate what I have stated as to its nature and treatment.

Case 1.—Mr. P., æt. 36, at the time I first saw him (Nov. 1836) had been affected with a disease of the right eye for about six weeks, which had kept increasing in severity, and which had now arrived at such an intensity, as nearly to destroy vision. He attributed the attack to riding on the top of a coach on a very cold day, as the eye became affected a few days subsequently. He had experienced a similar attack about five years before, which had affected the other eye. On looking at the organ, it was observed to be in a state of extreme vascularity, the conjunctiva loaded with red vessels, these being directly continuous on to the surface of the cornea, and presenting a red zone all around its margin. The cornea was throughout hazy and dull, but not to such an extent as to prevent the iris being seen dimly through it. There were a few pink vessels traversing the sclerotica, but there was no appearance of iritis, although the pupil seemed somewhat contracted. He had not much pain in the eye, but there was intolerance of light, and considerable lacrymation. His general health was usually good, but he was a rather pale, delicate-looking man. He had been for some time under the care of a surgeon, who had employed the usual antiphlogistic remedies without success. I recommended this plan to be followed up by means of cupping at the nape of the neck, counter-irritation by means of a blister on the temple, the local application of belladonna, and the internal exhibition of calomel and opium, with an occasional purgative. Notwithstanding the continuance of this treatment for the space of a month, the vascularity remained undiminished; the haziness had increased; the cornea had become of a deep-red colour throughout, except that a few streaks of lymph were observable here and there; it had assumed a decidedly conical figure, and it was impossible to perceive the iris, so great was the obscurity. Vision was of course totally gone, and the whole eye had a most unpromising appearance, so much so that the surgeon in attendance regarded it as irrecoverably lost. I now resolved to try the effects of stimulants. The nitrate of

silver was applied every alternate day to the conjunctiva of the lower lid, the red precipitate ointment ordered to be used every night, and the eye to be fomented occasionally with warm water. In the course of a week, a decided change was perceptible; the vascularity began to lessen, the haziness and opacity were obviously yielding, the perception of luminous objects returned, and there was much less irritation about the eye. Week after week improvement was manifested, the vascularity faded away, the transparency of the cornea became restored, and in about two months there was no vestige of the disease, except a few opaque spots, which did not materially interfere with vision.

Case 2.—A. T., æt. 28, a spare, delicate, young woman, presented herself with an affection of the right eye, which had been coming on for several weeks previously, and which she could not account for. There was but little vascularity about the eye, only a few vessels more than in the normal state being noticeable, and these chiefly conjunctival. The cornea, however, was opaque throughout its entire substance, the opacity being more dense in the centre, and but slight at the circumference. The opacity was such as might be supposed to result from the deposition of a milky fluid into the lamellated texture of the cornea, the conjunctival covering, apparently, retaining its transparency, but looking as if in a state of superficial ulceration. She was unable to discern any thing with this eye, but complained of very little uneasiness, scarcely any intolerance of light, and there was not much lacrymation, or other secretion, from its surface. I applied the nitrate of silver, in the usual manner, every three or four days, and directed, in the interim, the use of the sulphate of copper solution and the red precipitate ointment. Under this treatment, the opacity and vascularity gradually disappeared, vision was restored, and in about six weeks the organ exhibited no marks of disease. In the course of a month afterwards, the other eye presented precisely similar morbid appearances. The disease, however, had not existed many days before she applied for assistance, so that the cornea had not acquired that intense opacity which was observed in the other eye, and it yielded more readily to the same means.

Case 3.—This case, one of the most severe, protracted, and unmanageable that I remember to have met with, presented itself to my notice very recently, in a man nearly 40 years of age, who was otherwise in a healthy condition, and in whom the disease was induced by injury. Whilst lighting a fire, a spark flew out and lodged upon the cornea; the inflammation that succeeded was most intense; he was repeatedly bled, cupped, and leeched, and his mouth had been decidedly affected with mercury, without producing the slightest influence over the course of the disease. It was about six weeks after the accident that I first saw him; at this time the conjunctiva and cornea were apparently covered over with an intensely red vascular tissue; there was scarcely any perceptible distinction between the two textures, except that the cornea was considerably more prominent, and exhibited, at its centre, a dirty white opaque patch of some size. Of course it was quite impossible to discern any thing of the anterior chamber, so dense was the haziness and opacity of the cornea; there was still considerable uneasiness about the eye, copious lacrymation, and some intolerance of light. I advised a complete change of remedies, depending altogether upon the stimulating applications employed in the former cases: at the end of a month, however, the improvement was very slight, and, I presume, despairing of further benefit, the patient ceased to attend.

Inflammation of the Membrane of the Aqueous Humour.

It occasionally happens that the innermost layer of the cornea,—the serous membrane which secretes the aqueous humour,—is the principal seat of inflammation, whilst its lamellated texture is comparatively exempt, a condition that is technically termed *aquo-capsulitis*. This affection, however, is so commonly witnessed in conjunction with corneitis, that I think it better to treat of it now, while I am engaged with the general subject of inflammation of the cornea, than at a later period of the course.

The characteristic symptom of aquo-capsulitis is an exceedingly dull, turbid condition of the aqueous humour. Instead of the beautifully clear, pellucid fluid, which is imperceptible in the healthy state, the anterior chamber is visibly occupied by something resembling muddy water, so that it becomes, in some instances, almost impossible to perceive the iris or pupil through it. This muddiness of the aqueous humour generally appears most striking opposite the pupil, not that there is really any difference in that fluid in different portions of the anterior chamber, but that there is less reflection of light opposite the pupil than opposite the coloured surface of the iris. Frequently, too, the anterior chamber is enlarged, the aqueous humour increased in quantity, and the cornea unusually prominent.

In some instances, the membrane of the aqueous humour appears decidedly opaque, dotted, as it were, with opaque spots or streaks. The opacity, in this case, is deep seated, and when the substance of the cornea is itself transparent, the surgeon perceives that he is looking through it when he discerns the opacity of its internal layer.

But it rarely happens, as I have said, that

the cornea is entirely exempt from inflammation during the existence of aquo-capsulitis. Usually, there is considerable vascularity of the outer surface of the cornea, with some degree of haziness or nebula of its lamellated texture. In addition, there is always more or less vascularity of both conjunctiva and sclerotica found to accompany this affection.

As the membrane of the aqueous humour not only lines the inner surface of the cornea, but is reflected on to the iris, and as some think, the uvea and capsule of the crystalline, it frequently happens that many of the symptoms common to iritis supervene; thus, we sometimes observe that the pupil is either preternaturally contracted, or dilated and motionless, the surface of the iris changed in colour, pus effused into the anterior chamber, or lymph deposited on the capsule of the lens. These phenomena, however, when they occur, I agree with Mr. Middlemore in thinking, cannot properly be regarded as belonging to the disease under consideration, but as merely accidental, the result not of aquo-capsulitis, but of iritis.

It occasionally happens, too, that aquo-capsulitis is complicated with inflammation of the internal textures generally, which has been succeeded by amaurosis. I have met with cases of this description, in which, although the anterior chamber resumed its usual transparency, vision remained permanently destroyed.

The amount of intolerance of light, lacrymation, and irritation of the organ will be found to vary in different individuals. When the inflammatory action extends to the iris, or other internal textures, there is usually a deep-seated pain in the eye, very different from the uneasy sensation felt when the conjunctiva or cornea is affected.

The *treatment* of aquo-capsulitis is to be conducted on the same principles as that of corneitis. If the disease be of a very acute character, in its early stage, and more particularly if it be complicated with sclerotitis or iritis, then the antiphlogistic treatment ought to be selected, at all events in the first instance. Under these circumstances, the application of leeches to the eyelids, or cupping on the temple, or at the nape of the neck, will be necessary. At the same time, it will be proper to administer some preparation of mercury, such as calomel, with opium, so as slightly to affect the mouth, or until the symptoms are materially improved. The other parts of the antiphlogistic treatment are also to be enforced, such as the occasional exhibition of purgatives and abstinence from stimulating food and drinks. The eye should be shaded from light, and kept cool by the free use of an evaporating lotion. The extract of belladonna should also be applied at night to the eyebrow and lids.

In protracted cases of aquo-capsulitis, or in such as are of a less active character, in which the sclerotica and iris are not materially affected, I have often found the best results to follow the use of stimulants. You will probably be somewhat surprised at this statement, since it may appear a little at variance with the treatment I have before advised when there is inflammation of the internal textures. But in this affection, the morbid action is so generally limited to the outer textures, or, at all events, but slightly involves the deeper-seated parts, that antiphlogistic treatment may generally be dispensed with. In illustration of what I have said, I will briefly relate a case or two which will furnish you with examples of the success of the stimulating treatment.

Case 1.—Mr. S., about 50 years of age, a stout-looking man, but rather dyspeptic, had lost the vision of his left eye for two or three years. Within the last few weeks, he had experienced some irritation about it, which induced him to apply to me. On examining the organ, I found there was a very slight vascularity of both conjunctiva and sclerotica; the cornea was perfectly transparent, but the aqueous humour was so excessively turbid that the iris, and more particularly the pupil, could be but imperfectly perceived through it, and the pupil appeared to be much expanded and immoveable, though perfectly circular. He had some intolerance of light, but no pain in the eye. Now, in this case, vision was already lost; there was no very active disease going on, the vascularity was chiefly external, and I regarded the morbid state of the anterior chamber as a result of the external disease. I accordingly applied the nitrate of silver, in substance, to the conjunctiva of the inferior lid, which application was repeated three or four times, at intervals of a few days, and I also directed the use of the sulphate of copper solution in the usual manner. In about three weeks, the vascularity had disappeared, the aqueous humour had regained its transparency, and the eye was restored to the same condition as just previous to the attack.

Case 2.—Mrs. F., ætat. 33, a few weeks since had an attack of what was considered by her medical attendant to be iritis, and for which she was treated by mercury, belladona, and antiphlogistic remedies, with the effect of leaving the pupil irregular and contracted, but of tolerably restoring vision. About three weeks before I saw the patient, inflammation again attacked the same eye, which from that time to the period when she applied to me continued watery, uneasy, and intolerant of light. She sometimes experienced pain, which appeared to shoot into the eyeball, and complained of an uneasiness in the upper lid,

The conjunctiva was rather more vascular than natural, more particularly at the upper part of the eyeball, where the vascularity extended on to the margin of the cornea in some degree, and the conjunctiva of the superior lid was also unusually vascular. A few of the deeper-seated pink vessels were likewise discernible at the upper portion of the globe. The cornea exhibited a slight degree of haziness about the superior margin, the aqueous humour was exceedingly turbid, and the pupil looked very dull, and was much contracted and fixed. A small tubercle was also observed on the nasal side of the pupillary margin of the iris. Vision was so very imperfect that she could barely discern a finger held up before her. In this case the nitrate of silver was applied at intervals of three or four days, and an evaporating lotion and the extract of belladonna were recommended to be used in the customary manner; a mild purgative was also ordered to be taken occasionally. In about three weeks from the commencement of this treatment the vascularity was gone, the aqueous humour had regained its transparency, the tubercle had disappeared from the surface of the iris, and vision was so far restored that she was able to read.

I should state that Mr. Wardrop strongly recommends, in aquo-capsulitis, the evacuation of the aqueous humour, by puncturing the cornea, an operation which he states is always followed by complete relief and restoration of the transparency of the humour.

LECTURES

ON THE

ORGANS OF REPRODUCTION IN THE ANIMAL KINGDOM.

DELIVERED IN THE ROYAL COLLEGE OF SURGEONS, LONDON.

By PROFESSOR OWEN, *F.R.S.*

LECTURE VI.—MAY 2, 1840.

IN the previous lecture, classes of animals were considered, possessed of distinct male and female organs upon different individuals, and therefore diœcious. The organs themselves were very simple but multiplied, and diminished in subdivision in ascending the scale. Thus, in the Asterias, there were ten ramified cœcal bags; in the Echinus, five; in the Sipunculus, two; and in the Holothuria, one.

ENTOZOA.—The class Entozoa contains animals possessed of very different degrees of organisation. They have, consequently, been divided into two groups, *Cœlelmintha*, or Cavitaria, which have a complicated structure, with a distinct oral and anal opening; and *Sterelmintha*, in which there is no anal aperture, the alimentary canal being a simple hollow channel, or cavity, excavated in the substance of the animal.

The simplest among the Sterelmintha is the common Hydatid, a mere membranous bag, producing *gemmæ* upon its internal surface, which fall off, and then float freely in the fluid contained within the parent cyst. In the Acephalocyst, an hydatid found in the lower animals, the generation is exogenous, and takes place by the formation of buds upon the external surface of the parent; in the Cœnurus, the hydatid developed in the brain of the sheep, and giving rise to the disease called the "*staggers*," a single cyst is provided with numerous heads, which are produced by gemmation. The young Cœnurus is a simple sac, without any head, the head being developed subsequently, with numerous additional ones successively. In this peculiar mode of increase we are reminded of the growth of corals by incomplete fission.

The Entozoa are the only known instances in the animal kingdom of pure gemmation, independently of the production of ova. In the Cysticercus cellulosus and C. tenuicollis some granular corpuscles have been observed in the substance of the neck, which were thought, by Dr. Knox, to be the organs of generation. But observations upon the progressive stages of these corpuscles are wanting to prove their generative nature.

In a higher order of Sterelmintha the *Cestoidea*, or tape-worms, perfect generative organs have been described; and the situation of the external orifice of these organs has caused their subdivision into three groups. In the Tenia solium, the tape-worm which infests the inhabitants of this country, the generative opening is placed upon one of the borders of each segment. In the Tenia Lata, the tape worm of Russia and Poland, called Bothriocephalus from the peculiar formation of its head, the generative aperture occupies the centre of one of the flat sides of the segment. And in the third form, as in the Trinophorus, the opening of the female apparatus is situated in the centre of the flat surface of the segment, and that of the male upon the border.

Each of the segments of the Tenia solium, which may be taken as the type, is occupied by a dendritic ovary, containing numerous ova. No germinal vesicle has as yet been observed in these ova. Connected with the uterine tube, near its termination, is a tube which collects the secretion from a great number of radiated pyriform cæca, which constitute the nidamental apparatus, providing for the ova, previously to their exclusion, a peculiar secretion for surrounding and protecting them after their escape from the parent. At the bottom of the ramified ovary is a sac, which represents the vesicula seminalis, and receives the male fluid from numerous testes. Eschricht counted

400, and observed spermatozoa in the secretion. From the vesicula there proceeds an excretory duct, which terminates in a *cirrus*, situated close to the genital aperture, and serving the office of an intromitting organ, or penis. It is reasonable to conclude, that impregnation of the ova takes place previously to their nidification, by the insertion of the *cirrus* into the genital opening, and the intromission of the male fluid. For, it not unfrequently happens, that the uterine tube bursts, without excluding its ova by the natural opening, and the ova are dispersed in the surrounding medium—a phenomenon which is not unlike the distribution of the seeds of plants by *dehiscence*. Thus, in the Bothriocephalus punctatus of fishes, the greater number of the segments of the worm are cast off at the breeding season, like the seed-vessels of plants, leaving only the head, with a few of the upper segments, connected with the mucous membrane.

The order *Trematoda* is characterised by the presence of sucking pores, and in these the organs of reproduction are better known. Two of the genera, the Distoma hepaticum and Pinguecola have been found in the human body; the former is rare, and the latter has been seen only once, imbedded in the structure of the ovary. In the Monostoma, infesting singing birds, the generative organs are very complicated. There are two ovaries, each containing many ovisacs, and two long oviducts, which convey the ova to an uterine sac, in which nidification takes place previously to their exclusion. The male organs consist of two testes and vasa deferentia, which lead to ramified vesiculæ seminales. The male and female genital pores are distinct. In the Distoma globiferum there are two ovaries, composed of a number of ovisacs, each containing the germs of from five to ten ova. The oviducts are extremely long, and gradually become larger, as do the ova, in their progress onwards towards the uterine sac, which opens upon the surface by means of two apertures. These ova are expelled in great numbers from the alimentary canal of Ruminants, and after their exclusion, a portion of the ovum, forming a kind of operculum, falls off, and the young escape. The Monostoma is viviparous as well as oviparous.

Professor Siebold, of Dantzic, has made researches into the mode of development of the ova of a Monostoma found in the air tubes of marine birds. These ova were provided with a chorion and vitellus, but there was no appearance of a germinal vesicle. The yolk became granular during the development of the ovum, opaque towards the centre, and presented a central cavity. Within the cavity was the embryo, which increased in size during the passage of the ovum along the oviduct, two dark eye dots were then perceptible, it moved freely within the ovum, and, upon reaching the terminal part of the oviduct raised the operculum, and escaped from the shell. It was now covered with vibratile cilia, possessed two square-shaped eye specks, and was found to contain within its interior a number of parasitic animalcules.

Nordmann has observed the same peculiarity in the distoma of the perch. The young of the distoma hepaticum is also provided with vibratile cilia upon the surface of its body and eye specks, both of which are lost in the adult when the animal becomes permanently fixed by its suctorial organs.

Cœlelmintha.—This order is chiefly composed of Nematoidea, or round worms, which have distinct sexes on different individuals. In the Linguatula, a worm which inhabits the frontal sinuses of the wolf and dog, the ovary is composed of numerous ovisacs, and is adherent to the internal surface of the dorsal integument. From these proceed two oviducts, which surround the œsophagus, and are joined by two other ducts, from two pyriform sacs, in which Mr. Owen has found spermatozoa. The common duct of each side then unites with its fellow, and they form together a single canal, which terminates near the anus. Deesling, however, has ascertained the existence of distinct males, in which two flattened bodies represent the testes, conveying their secretion by means of two vasa deferentia, which unite and form a single duct. The common duct communicates with a horse-shoe shaped body, the prostate gland, and then divides into two branches, which terminate in two intromitting organs.

In the Nematoid genera, the usual character of the vas deferens is a long single tube, which terminates at the base of the penis, as in the ascaris, and is more simple than in the linguatula, filaria, and gnathostoma. In the Strongylus gigas, a worm found in the structure of the kidney, the female organ resembles that of the male in its extreme simplicity, being merely a single tube. In the Strongylus inflexus, which inhabits the air tubes, and has been found by Mr. Owen in the pulmonary artery and veins, and even in the heart of the porpoise, the generative tubuli are straight, and not longer than the body of the worm. In the male, the tube is very simple and bifurcates near its end, to terminate in two intromittent organs. The young of the strongylus are extruded alive from the parent.

In the Ascaris lumbricoides, each uterine tube is, according to Hunter, sixteen feet in length, and terminates by a short common duct, at about one-third from the anterior extremity of the body.

When a transverse section of one of these worms is made, fifty ova are seen to be arranged, on the same plane, in the form of a wreath, around the alimentary canal; and if this number be calculated by the length of the animal, the entire number of ova, and,

therefore, the number of young, capable of being produced at a single birth, from the same parent, will amount to the astonishing number of 64,000,000. Each ovum possesses a central vesicle, which, in its passage along the oviduct, is gradually lost, and near its termination the entire vitellus is converted into granules. In the Filaria medinensis, the young differ in form, from the parent, being somewhat blunted at one extremity and sharply pointed at the other.

When we reflect upon the complexity of structure, the variety of form, as suited to different habitats, the astonishing number of ova, the great tenacity of life—for many of these entozoa resist the action of boiling water for several minutes, and sometimes come to table with the fishes they have infested, actually moving on the dish, and in the North of Europe still continue to live in fish which have been frozen for a considerable time—when we reflect upon the extraordinary powers of resisting decomposition, and maintaining life, which they possess, and upon the beautiful provision of a defensive covering, secreted by nidamental glands, —must we not feel, that the all-wise and creative Providence has dispensed to the lowest, equally with the highest, the vital attributes which provide munificently for their enjoyments, as well as for their existence?

EXTENSIVE MORTIFICATION,

FOLLOWING FEVER, INDUCED BY

DRINKING COLD WATER

WHILE IN A STATE OF

FATIGUE AND PERSPIRATION.

To the Editor of THE LANCET.

SIR:—I take the liberty of transmitting to you the particulars of one of the most extensive and interesting cases of mortification which I have ever heard of terminating successfully. I am, Sir, your obedient servant,

J. F. P. FINUCANE, Surgeon.

Darby-street, Bradford, near Leeds, April 24, 1840.

On Tuesday, the 13th of August, 1839, I was solicited to visit a man of the name of Ambrose Long, ætat. 56, a blanket weaver, residing at Shipley, within three miles of Bradford. Upon my arrival I ascertained that he had been for some days under the care of a gentleman of the name of Booth, a surgeon residing in that town, whom I requested to be sent for. Mr. Booth informed me that the patient had been at work in a hay field in the neighbourhood, and while in a sweating state had taken a copious draught of cold water, or beer; shortly after which he was seized with the usual symptoms of fever, for which bleeding was had recourse to, with the exhibition of diaphoretic medicine. On Mr. Booth's next visit, the patient complained of much pain in the testicles, which was not considered of importance, further than inducing a belief that it was the result of cold. Leeches were applied, followed by cloths, wrung out of hot water. The case, however, assuming a more alarming appearance on the following morning, the family determined to have other advice, and I was requested to visit the patient. On my arrival I found the expression of the countenance one of extreme anxiety; face flushed; lips blue; distressing hiccough, lasting for nearly six or seven minutes, and occurring many times within the hour; great thirst and restlessness. Patches of a blueish purple were observed upon the calves of the legs, the inguinal regions, the arms, and the entire of the scrotum and penis. The bowels are open, and he passes urine freely.

At the desire of the relatives, and of Mr. Booth, I took the patient under my own care, and invited Mr. B. to look to the case in my absence, which he ceased to do after the second day. I ordered cataplasms of charcoal and fresh yeast, with the solution of chloride of lime, to be applied to the scrotum and penis; plasters of fuller's earth and yeast to the calves of the legs and groins, and renewed every hour; and the following medicines internally:—

Bicarbonate of ammonia, ℈ij;

Compound spirit of ammonia, ℥j;

Camphor mixture, ℥viij. To be made into a mixture, of which let three tablespoonsful, with a scruple of tartaric acid, be taken every three hours. Four grains of camphor, and one of bicarbonate of ammonia, made into a pill with extract of hyoscyamus, were to be given twice or three times a-day; and a tablespoonful of fresh yeast, mixed with one of water, three or four times in the course of the day.

14. Countenance greatly flushed, with a blueish appearance; restlessness and thirst increased; hiccough much more violent and frequent; eyes red and suffused, of a glassy brightness; the power of speech much altered, and articulation difficult. Three tablespoonsful of warm brandy and water were directed to be given every second hour, and the applications and medicines to be continued; the use of the chloride of lime in solution was recommended to destroy the unpleasant smell.—Evening: symptoms the same as in the forenoon. Continue the brandy and water, alternately with half-pint draughts of the best London bottled porter; medicines and applications as before.

15. Passed a bad night without sleep; the mortified patches not enlarging upon the

legs or arms, but the inguinal region, scrotum, and penis still continue to threaten immediate destruction of the integument. Continue the medicines, &c., as before. Yeast and fuller's earth plasters to be kept applied every three hours to the scrotum and penis, as well as to the inguinal regions.

16. Passed another sleepless night; thirst not so troublesome; pulse not so full or labouring; hiccough increased in violence and frequency. Ordered to take thirty drops of the following mixture in water:—

Compound spirit of lavender, 3ij;
Compound tincture of cardamoms, 3ij;
Compound spirit of ammonia, 3ij;
Theriac syrup, 3iv. M. Continue the medicines as before, with the porter and brandy and water.

17. The hiccough abating in frequency and duration; less anxiety of countenance; bowels open; passes urine freely of an ammoniacal odour, brownish colour, full in quantity; the patches upon the legs and arms appear to fade and be subdued; the scrotum and penis are disposed to slough, whilst the inguinal regions at either side are improving. The applications to be continued as before to the scrotum and penis. Linseed meal, with charcoal, is to be applied in poultices, night and morning, to the inguinal regions. The medicines, with the brandy and water and porter, to be continued as before.

18. Passed a better night; slept some hours; symptoms generally more favourable; sloughing of the scrotum and penis commencing. Continue the medicines and applications as before.—Evening: Took some strong beef-tea; appeared rather more composed, with less anxiety.

19. Hiccough abating, passed another favourable night, slept better; pulse improving, more steady and regular; less anxiety of countenance; thirst less. Continue the medicine and applications as before.

20. The hiccough is nearly abated; appetite good; less anxiety of countenance; thirst abated; slept well. Matter forming in the inguinal regions; the sloughing of the other parts continues. Repeat the medicines as before.

21. All mortification stopped; sleeps well; appetite improving; hiccoughs only once or twice a day. Turnip poultices to be applied to the scrotum and penis every four hours, with the following medicine internally:—

Sulphate of quinine, grs. xvj.;
Diluted sulphuric acid, 3j;
Compound infusion of roses, ℥vj, mix. Two tablespoonfuls to be taken every four hours.
Bicarbonate of ammonia, grs. i.ss;
Camphor, grs. ij;
Powder of capsicum, gr. j. *Conserve of roses*, sufficient to make into a pill; to be taken three times a-day. The porter and brandy to be continued.

23. Improving; the slough on the penis detaching itself from the adjacent sound parts; the scrotum beginning to slough; he complains of much pain over the pubes upon pressure; eats and sleeps well. Continue the treatment and medicines as before.

26. Removed the slough from the penis, leaving the glans penis and the urethra uninjured; bowels confined; otherwise going on favourably.

30. Improving, the slough on the scrotum is becoming detached close to the perineum. Repeat the medicines and applications as before.

Sept. 2. The entire scrotum is almost completely detached.

3. I removed the whole scrotum, leaving bare the testes, suspended loosely by their chords; lint, covered well with the marshmallow ointment, was applied to supply the place of the scrotum, and retained by strips of adhesive plaster to support the testes.

12. Much improved; the part above the pubes was opened, and the putrid pus set at liberty.

17. General health continues to improve. I made an incision into the left inguinal region, about five inches in length, when nearly a quart of dark coloured putrid and excessively offensive matter were discharged, after which the lips of the wound were brought together by sutures, and a poultice of linseed meal applied. The medicines, &c. to be continued as before.

24. Opened the right inguinal region to the same extent with the left, when pus in the same character, but somewhat less of quantity, was liberated; the lips of the wound were afterwads brought together by strips of adhesive plaster, and covered with a linseed meal poultice; the penis is nearly covered with a new skin, and the testes are covered for about two-thirds by an elongation of the skin from the adjacent parts.

25. The wound in the right inguinal region is perfectly cicatrized; the new scrotum rapidly closing; the testes healthy; complains much of want of power in the lower extremities.

Nov. 1. The testes are now perfectly covered, but the opening in the right inguinal region, and over the pubes, still remain open. By the 18th, he was perfectly sound and strong, with the exception of a feeling of want of power in the lower extremities. The patient from this time gradually gained strength, and has been now, for the last two months, in the full enjoyment of health, following his employment regularly as a blanket weaver.

CLINICAL MIDWIFERY.

To the Editor of THE LANCET.

SIR:—We beg to inclose an abstract of a Report of 89 cases of midwifery, occurring in the practice of Queen Adelaide's Hospital, during a period of three months, attended by Mr. W. French, of Wilton, near Salisbury, one of the pupils of our class at Windmill-street. For this Report our prize for clinical midwifery was adjudged on Thursday, May 7th, 1840.

Feeling that our art can only be advanced by a perpetual contrast between the *principles taught* and *facts faithfully recorded*, we venture to hope that the following tables may be considered worthy of a place in your Journal. We have the honour to be, Sir, your most obedient servants,

W. BLOXAM,
W. ANDREWS, M.D.

Queen Adelaide's Hospital,
Queen-st., Golden-sq., May 9, 1840.

TOTAL NUMBER OF CHILDREN :—

Males, 43 | Females, 46 | Total, 89.

Age of the Mother.		Duration of Labour.	
Under 15 years,	1	In 12 cases,	2 hours.
.. 20	6	11	from 2 to 3
.. 25	20	14	.... 3 to 4
.. 30	39	9	.... 4 to 5
.. 35	15	11	.... 5 to 6
.. 40	5	11	.... 6 to 8
.. 45	3	10	.... 8 to 10
		3	.... 10 to 12
	89	2	.... 12 to 14
		3	.... 14 to 18
		3	.... 24 hours.
		89	

Interval between rupture of the membranes and birth of the child :—

In	7 cases, from	1 to 5	minutes.
	6	5 to 10	....
	15	10 to 15	....
	24	¼ to ½	hour.
	11	½ to 1	..
	11	1 to 2	..
	5	2 to 3	..
	3	3 to 6	..
	3	6 to 12	..
	1	12 to 24	..
	1	2	days.
	1	3	..

Interval between birth and expulsion of placenta :—

In	4 cases, from	1 to 5	minutes.
	23	5 to 10	..
	17	10 to 15	..
	13	15 to 20	..
	24	20 to 30	..
	2	30 to 40	..
	2	40 to 1	hour.
	3	1 to 2	..

PRESENTATIONS.

One placental presentation;
Two breech presentations;
One footling case;
One presentation of the back (turned);
One presentation of the funis;
One case of hour-glass contraction;
Five cases of hæmorrhage.

The whole of the cases recovered. No ergot was given in any case. Five of the children were still-born. One patient was attacked with puerperal fever.

DIVISION
OF THE
MUSCLES OF THE ORBIT.
BY MR. LISTON.

To the Editor of THE LANCET.

SIR:—The attention of the profession has lately been much directed to the division of the muscles of the orbit. Having witnessed and assisted at several operations of this nature, performed by Mr. Liston, I beg to forward to you the following observations on their results. I am, Sir, your very obedient servant,

W. R. ANCRAM.

London, May 6, 1840.

E. A. had lost his eye from severe inflammation; not wishing to wear a false one, he was anxious to keep the upper lid constantly closed, in order to hide the deformity. He could only partially effect his object by gumming the eyelids, and by various other means, and wished to have some operation performed which would have the result of permanently closing the lids. With this view he proposed to Mr. Liston the division of the levator palpebræ muscle, which was effected in the following manner:—A small transverse incision was made immediately beneath the supra-orbital ridge, the edges of the wound were held asunder, and, after a little dissection backwards, the belly of the muscle was seized and divided with a pair of scissors; the upper eyelid immediately and permanently fell.

Some cases of strabismus have been most effectually treated by division of the internal rectus. In three of these cases the contraction of the muscle occurred in the right eye; in the fourth, the muscles of both eyes were affected, but the right one in a greater degree.

Mr. Liston operates in the following manner:—The lower eyelid is everted, and with a pair of spring artery forceps a small portion of the conjunctiva is seized; the forceps are then allowed to hang down, and the eyelid is thus held completely open; the upper eyelid is held up with the common speculum; a small double hook is placed in

the conjunctiva, internally to the cornea, and the eye is pulled outwards; the conjunctiva being snipped across with scissors, and the sclerotic exposed, another hook is placed in this membrane, and the eye more forcibly everted. With a little dissection, the muscle is seen just as it ends in its tendon, and with a pair of scissors it is cut across close to its insertion into the sclerotic; the operation does not occupy half a minute when the patient is quiet, and one assistant only is required. The division of the tendon, at its insertion into the sclerotic, prevents any future contraction of the muscle, and the use of the scissors, enables the surgeon to operate with much greater rapidity and ease.

After these operations, the patient is usually unable to bring the cornea to the inner angle of the eye; but in one case, in which the internal rectus had been most completely divided, and the strabismus cured, the patient still possessed this power. This circumstance suggested the idea, that a contraction of the two oblique muscles, might, in some cases, be the cause of the continued inversion of the eyeball after division of the internal rectus.

DUMBNESS PRODUCED BY QUININE.

To the Editor of THE LANCET.

SIR:—Reading a case of "Dumbness produced by sulphate of quinine," in the last Number of THE LANCET, related by Dr. Ménage, a similar case, which occurred in my own practice some years since, was brought to my mind. At that time I did not think it worth notice, as I was then doubtful if the sulphate of quinine could cause this affection; but it appears to me now to be of more importance, as, in connection with the cases of Dr. Ménage and M. Bertin, it tends to prove this occasional singular effect.

I was attending Mrs. B., daughter of a retired surgeon, about 30 years of age, (married, and the mother of three children, not subject to hysteria, or any other nervous affection) with the late Dr. Armstrong, in consequence of intermittent fever, and it was thought right to give her sulphate of quinine. A considerable quantity of that medicine was taken, and I was sent for, in great haste, in consequence of her being incapable of speaking. She was perfectly sensible, with a good countenance, and her respirations were natural. By omitting the quinine she recovered her speech in twelve or fourteen hours. I am, Sir, your obedient servant,

G. OAKLEY HEMING.

7 B, Manchester-square,
May 13, 1840.

THE MORTALITY OF LIVERPOOL.

To the Editor of THE LANCET.

SIR:—You were never more mistaken than when, in the last Number of THE LANCET, you charged me with a desire to "palliate and weaken the force of the facts" with regard to the mortality of Liverpool.

The newspaper extracts from Mr. Farr's letter to the Registrar-General, made it appear that the mortality of Liverpool exceeded that of London by 27 per cent., and that of Manchester by nearly 40 per cent. Such statements naturally excited surprise, and many did not hesitate to question the accuracy of Mr. Farr's calculations. Finding, on examination, that the numbers announced by Mr. F. were drawn from the observations of so limited a period as half-a-year, and *that* the most unhealthy half-year within our memory, I mentioned this fact at the meeting of the Liverpool Medical Institution, in explanation of the statement which had frightened the lieges from their propriety, and I showed that had the *second* half-year been made the basis of the calculation, it would have yielded a different result. At the same time, although I think that Mr. Farr might with propriety have deferred his statements of relative mortality until more extensive data had been collected, it was far from my wish or intention to "weaken the force of the *facts*." My evidence, given three or four weeks ago, before Mr. Slaney's Committee on the Health of large Towns, would fully exonerate me from such a charge. Whatever the relative mortality of Liverpool may be (and, I believe, that, with the exception, perhaps, of Manchester,* it stands at the head of the list of English towns), its absolute mortality is so high as to call for the immediate attention of those whose duty or whose inclination it is to ameliorate the condition of the working classes. There is no doubt that it is in the construction of their dwellings, in their habits, in the apathy or cupidity of their landlords, and in the neglect of the public authorities, that an explanation of this high state of mortality is to be found. Should Mr. Slaney's benevolent efforts, unfortunately, fail to meet with that support from Parliament which they deserve, I do not doubt that the profession here will unite in pressing upon the attention of our local authorities the necessity of

* I have seen no statement, as yet, enabling me to decide as to the comparative mortality of Liverpool and Manchester. The density of the population is not, as you say, exactly alike in the two towns, Manchester affording 42 square yards, and Liverpool only 37 square yards to each inhabitant. In some parts of Liverpool, there are not more than three yards, if so much, to each inhabitant.

doing something to improve the health and comforts of the poorer inhabitants of Liverpool. I am, Sir, your obedient servant,

W. H. DUNCAN.

Liverpool, May 5, 1840.

"We were never *more* mistaken." Be it so. We were certainly not mistaken, in the present instance. Dr. DUNCAN said not a word at the Liverpool Medical Institution about the high, absolute mortality of Liverpool. He did not tell the inhabitants of Liverpool what he tells us, that the "absolute mortality is so high as to call for the "*immediate attention* of those whose duty it "is to ameliorate the condition of the working classes." We do not agree with Dr. DUNCAN, that the statements of relative mortality might, with *propriety*, have been deferred. The sooner the attention of the people of Liverpool was called to the high mortality, and the extent to which the health of the place could be improved, the better. There would have been no *propriety* in quietly allowing thousands of lives to be sacrificed, year after year, until it could be settled, mathematically, whether Liverpool was not, or was, as it appears to be, the unhealthiest town in the kingdom.

As the question of the health of towns is important, we extract the passage in Mr. FARR's letter to the Registrar-General on that subject:—

"The mortality then increases with the density, yet the densest districts are not invariably the most unhealthy.

Unions or Districts.	Area in sq. yards to one person.	Annual Mortality per cent.
St. James, City of London, Strand (mean)	24	2.1
Shoreditch, Bethnal Green Bermondsey (mean)	60	3.1

"The necessary deduction from the double series of facts, then, is that the mortality has a tendency to increase as the density of the population increases, but that the unhealthy tendency can be counteracted by artificial agencies. In other terms, the mortality of cities in England and Wales is high, but it may be immeasurably reduced. A good general system of sewers; the intersection of the dense, crowded districts of the metropolis by a few spacious streets; and a park in the East end of London, would, probably, diminish the annual deaths by several thousands, prevent many years of sickness, and add several years to the lives of the entire population. Similar improvements would have the same effects in the other cities of the empire. The poorer classes would be benefited by these measures, and the poor-rates would be reduced; but all classes of the community are directly interested in their adoption, for the epidemics, whether influenza, typhus, or cholera, small-pox, scarlatina, or measles, which arise in the East end of the town, do not stay there; they travel to the West end, and prove fatal in wide streets and squares. The registers show this; they trace diseases from unhealthy to healthy quarters, and follow them from the centres of cities to the surrounding villages and remote dwellings.

"In the unhealthy districts of the metropolis, the mortality from the epidemic diseases is higher than the mortality from diseases of the respiratory system; in the healthy districts, on the contrary, the mortality by the former is lower than the mortality by the latter class of diseases.

Annual Rate of Mortality per Cent.

Districts.	Epidemic Diseases.	Diseases Respiratory Organs.	Mortality from all causes.
1—10 (unhealthy,	.99	.82	3.32
11—20	.70	.77	2.84
21—30 (healthy)..	.48	.59	2.16

"The reason of this is obvious; diseases of the epidemic class increase more rapidly than diseases of the respiratory system in unhealthy localities. The relative increase will be understood at a glance, when the mortality in the first ten districts is taken as unity.

	Districts 1—10.	Districts 11—20.	Districts 21—30.
Epidemic diseases,	1.00	1.45	2.04
Diseases of respiratory organs...	1.00	1.31	1.40
Typhus.....	1.00	1.92	3.03
Phthisis	1.00	1.27	1.35

The fatality of typhus increases 303 per cent. in the districts 21—30; phthisis (consumption) 35 per cent.; and it may be laid down, as a general principle, that wherever the proportion of deaths from phthisis, compared with the total deaths, is high, the absolute mortality is low, and that the absolute mortality from phthisis itself is low. Attention to this fact will obviate several practical errors, such, for instance, as sending consumptive patients to the West Indies. The deaths out of the living express the real tendency to phthisis.

	Districts 1—10.	Districts 11—20.	Districts 21—30.
Proportion of deaths by phthisis in 100 deaths	14.4	15.8	16.4
Annual deaths by phthisis out of 100 living	.478	.451	.354

"These observations will facilitate the interpretation of Table N: they will, at least, prevent the facts which it exhibits from being misunderstood. But, before proceeding to the rest of the Tables, I subjoin another illustration of the principles above stated, in a comparative view of the mortality of females in five cities. The population, October 1, 1837, was deduced from the annual rate of increase 1821—31, and the proportion of females was assumed to be the same as in 1831.

"In all these divisions, as well as in the metropolis, the great mass of the population is concentrated upon a few square miles. Thus, the population of Manchester, 168,911, was located upon 1,480 acres (2.31 square miles); while the population of Blackley, and the rest of the district, amounting, October 1, 1837, to 29,453, was distributed over 12,410 acres (19.39 square miles). And in Liverpool, 203,327 inhabitants resided upon 1,560 acres (2.43 square miles); in West Derby, 72,571 upon 36,500 square acres. The rate of mortality and the diseases vary with the density of the population in Liverpool and Manchester."

TABLE I.

Districts.	Population.				Total Deaths.	Area in Square Miles.
	1821.	1831.				
		Males.	Females.	Both Sexes.		
Leeds	94,638	66,555	69,026	135,581	1,582	64.8
Birmingham	85,416	54,593	56,321	110,914	1,459	4.2
Manchester and Salford	176,629	113,842	123,093	236,935	3,703	59.5
Liverpool and West Derby	151,331	101,015	117,218	218,233	4,913	59.5

TABLE K.

Of the Relative Mortality of Females in Leeds, Birmingham, Manchester, London, Liverpool; and in England and Wales.

Annual Deaths to 100 (000) living.

		Leeds.	Birmingham.	Manchester, &c.	London, &c.	Liverpool, &c.	England and Wales.
Epidemic, &c., diseases		.369	.418	.565	.697	1.116	.459
Typhus		.115	.126	.180	.196	.339	.129
Sporadic Diseases.	of the nervous system	.309	.250	.414	.400	.544	.284
	of the respiratory organs	.515	.623	.722	.657	.860	.551
	Phthisis	.401	.494	.510	.402	.670	.415
	of the organs of circulation	.009	.054	.013	.033	.026	.019
	of the digestive organs	.127	.214	.209	.177	.228	.133
	of the urinary organs	.007	..	.003	.004	.001	.004
	of the organs of generation	.058	.051	.058	.052	.058	.042
	of the joints, &c.	.016	.012	.019	.014	.007	.012
	of the integumentary system	..	..	.004	.002	.010	.003
	of uncertain seat	.166	.229	.161	.270	.214	.233
Old Age		.138	.156	.128	.218	.163	.197
Violence		.035	.045	.042	.032	.046	.035
Unspecified diseases		.055	.048	.040	.034	.016	Vide p 72
All causes		1.804	.201	2.378	2.590	3.289	1.972
Inhabitants to a square mile.		2,674	31,487	25,578	4,617	4,617	265

[redacted]

Table I.

Liverpool (Division 3).

	Area in Acres.	Population October 1, 1837.	Deaths July 1 to Dec. 31, 1837.	Inhabitants to Square Mile.	Annual Rate of Mortality per Cent.
Liverpool	1,560	203,327	3,996	83,415	3.931
West Derby	36,500	72,571	917	3,107	1.752
Difference	..	..	..	..	1.404

Manchester.

Manchester	1,480	168,911	2,718	73,121	3.218
Blackley, &c.	12·410	29,453	258	1,514	2.527
Difference	..	..	..	..	1.466

It is shown that the mortality in the densest districts of the metropolis was 3.3 per cent.; while in the openest districts, where there were 217 square yards to each person, on an average, the mortality was only 2.2 per cent.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, May 12, 1840.

On Aneurisms, and especially Spontaneous Varicose Aneurisms of the Ascending Aorta, and Sinuses of Valsalva, with Cases. By John Thurnam, *Esq.*

After some observations on the probable course and termination of aneurisms, limited to the aortic sinuses of Valsalva, the author proceeded to the proper subject of his paper, on spontaneous varicose aneurism of the aorta, a form of disease which is new to pathologists. This lesion he stated to have been entirely overlooked by M. Breschet in his valuable "Memoir on Varicose Aneurisms," although Mr. Syme had already detailed a case seated between the abdominal aorta and vena cava. After adverting to the interesting cases published by Mr. Perry, in the 20th volume of the "Society's Transactions," the author proceeded to the consideration of the lesion as occurring in the ascending aorta. He considered this part of the arterial system, including the aortic sinuses, as more liable than any other to the formation of such a spontaneous intervascular communication, in consequence, principally, of its close contact with various parts of the venous system. He detailed eleven cases, and referred to the preparations of six others, in which spontaneous varicose aneurism had existed. Of these, two implicated the descending aorta and inferior vena cava; and one, the arteria innominata and superior vena cava; the others were all seated in the ascending aorta (excepting one in the arch) and communicated, one with the superior vena cava, two with the right auricle, one with the right ventricle, and two with the pulmonary artery. He then proceeded to give the history of the disease, which he founded upon an analysis and comparison of these cases. He stated that the mode of communication between the aneurismal sacs and the venous system, might occur in two ways principally, viz., either suddenly and by rupture, in consequence of some effort of the patient; or in a more slow and insidious manner, by softening or ulceration of the walls of the sac. The symptoms which announced the formation of varicose aneurism under the first of these circumstances, were described, and were stated to resemble those of a rupture of the heart. The symptoms of the disease were divided into those connected, Firstly, with the the external surface, and system generally; Secondly, with the respiration; and, Thirdly, with the state of the heart and great vessels. The most important of the general diagnostic signs, were stated to be livor of the surface, a distended and even varicose condition of the subcutaneous and other veins, severe and rapidly advancing anasarca; all these symptoms being limited to such portions of the

body as are below, or the venous system of which is distal to the varicose orifice. When the varicose aneurism is between the descending aorta and inferior vena cava, these effects occur in the legs, scrotum, and lower half of the body; when between the ascending aorta and the superior cava, in the arms, face, and upper half of the body; and when between the ascending aorta and one of the right cavities of the heart, or the pulmonary artery, the whole body is the seat of the dropsical effusion; the dyspnœa is usually severe, and often attended with cough and bloody expectoration; the pulse is *remarkably jerking*, and there is frequently great emaciation, debility, loss of muscular power, and deficient animal heat, with sensorial disturbance in the shape of delirium and coma. The physical signs were stated to be—a "superficial, harsh, and peculiarly intense sawing, or blowing sound, accompanied by an equally marked purring tremor, heard over the varicose orifice, and in the current of the circulation beyond it. This sound is continuous, but is loudest during the systole; less loud during the diastole, and still less during the interval. The character of the sound, as regards intensity and continuousness, will, probably, distinguish it from any that is heard in ordinary cases of aneurism, or in valvular diseases of the heart."

The author then entered upon the consideration of the pathology, prognosis, and treatment of the lesion, including the rationale of the physical signs. He also drew an interesting parallel between the symptoms of internal, spontaneous varicose aneurisms, as developed in his paper, and those of the ordinary external, or traumatic varicose aneurisms, as described by Hunter, Cleghorn, Scarpa, and Breschet. The paper was concluded by some observations on aneurisms of the ascending aorta, rupturing into the left cavities of the heart; and two illustrative cases were narrated.

Dr. ADDISON had seen the case upon which many of Mr. Thurnam's observations had been founded. The patient was in the Westminster Hospital, and various opinions had been taken with reference to the exact nature of his complaint. He (Dr. Addison) believed, at the time he saw the case, that there was a communication between the ventricle and somewhere, but where he could not tell; in this case, the situation of the aneurism was such as to assist much in the diagnosis, the whizzing sound not only being audible, but perceptible to the touch on the left side of the sternum. The peculiar state of the pulse in these cases was such, that when it existed, and no valvular disease allowing of regurgitation from the aorta could be detected, he should not hesitate to pronounce the presence of varicose aneurism. How far all the symptoms in this case were dependent upon the varicose aneurism, admitted of a doubt, inasmuch as extensive disease of the heart and valves also existed.

PATHOLOGICAL MEETING.

Tuesday, May 19, 1840.

Dr. CLENDINNING, *President.*

UTERINE HYDATIDS.

Mr. NORTH exhibited several specimens of degenerated ova, known to English pathologists under the name of "hydatids." The term employed in this country was altogether erroneous, as the disease consisted merely of vesicles filled with water, and gave no evidence of being endowed with life. Some pathologists had endeavoured to show that these vesicles were really living; and one pathologist had decided that this was the case, from observing that they had a rotatory motion when placed in hot water. This experiment was not, however, by any means a test of their vitality; for a piece of quill or bread, under the same circumstances, would be similarly acted upon. He (Mr. North) had no doubt that the opinion of Madame Boivin and Velpeau, as to their real nature, was the correct one, viz., that they were generally, if not always, an aggravated growth of the natural filaments composing the chorion. The filaments of this membrane, when viewed through a microscope, exhibited a knotty or beady structure, which, in his opinion, was perfectly conclusive on the subject. With regard to the symptoms indicative of the presence of this disease in the uterus, he could only observe that, at present, notwithstanding opinions to the contrary, he believed we had no means of distinguishing this affection from real pregnancy.

The expulsion of these growths took place in the same manner as that of the ovum in ordinary abortions, being generally succeeded by much hæmorrhage. There was one circumstance, however, attending the hæmorrhage in these cases, which frequently enabled us to determine the nature of the body about to be expelled; and this occurred in the case from which the more recent of the exhibited specimens was taken. Thus, in this case, as in many others after slight hæmorrhage, the contractile efforts of the uterus were accompanied by a discharge of watery fluid, the discharge occurring at no other time. These two symptoms could only be confounded with cauliflower excrescence, which was a very rare disease, and in this latter, too, the watery discharge would be constant.

The ordinary periods at which degenerated ova were expelled, ranged between the third and fifth month of suspected preg-

nancy; but they might, on some occasions, be retained for months, and even years, in the uterus.

The treatment to be pursued was the same as that in ordinary cases of abortion. He deprecated the plan which had been recommended of dilating the os uteri, by the introduction of wooden instruments, to facilitate the expulsion of the diseased growth. Regarding the prognosis in these cases, it was well for the practitioner to be aware, that after the expulsion of a large quantity of these "hydatids," the discharge might cease, but return again at the expiration of two or three weeks, and the hæmorrhage might go on even to a fatal termination. Caution, then, in the prognosis was necessary. Madame Boivin had recorded seven, and Professor Davis six, fatal cases of this kind. It was a question of much importance in this disease, to determine whether it might arise from any other cause than disease of the ovum; or whether it could be present without previous sexual intercourse. Various opinions on this point had been expressed; but, generally, he was positive these growths were the result of degeneration of the ovum; indeed, it was difficult to conceive how they could be present in the uterus independently of conception. If, as he believed, the growths were the result of an exaggerated development of the filaments of the chorion, their great number might be explained. Occasionally it was said, that these "hydatids" were expelled from the virgin uterus; but this assertion rested chiefly on conjecture. Two cases had been published by Dr. Andrews, of Glasgow, in which it would appear that "hydatids" had been expelled from an unimpregnated uterus. In one of these cases, the patient was a young lady, sixteen years of age, of unblemished reputation; and the other was a young woman, aged seventeen, in whom the hymen was still perfect. In the present state of our knowledge we could not positively determine that these growths might not be present independently of conception; and this should be borne in mind when we are called upon to give an opinion upon the subject, for a reputation might be destroyed unjustly by a too positive decision. It was important also to know, that if a portion of the placenta, either after abortion, or delivery at the full period, were allowed to remain in the uterus, it might become converted into "hydatids," retained for years, and then expelled. The results of such a case were important, and particularly if the patient were a widow. When these "hydatids" were expelled in considerable quantities, the organs of generation presented precisely the same appearances as were observed after delivery.

Mr. Erasmus Wilson was fully convinced that these growths depended upon a dilatation of the filaments composing the ramified tufts of the chorion, and that, therefore, they could not be present, except where a portion of placenta had been retained, as pointed out by Mr. North; or where the ovum had been impregnated and had descended into the uterus; he was, therefore, at a loss to understand how they could be present in the virgin.

Dr. Hodgkin agreed with the last speaker; he had been in the habit of examining the diseased structure in question for years, and was perfectly satisfied that it consisted of degeneration of the *vessels* of the chorion, and not simply of the structural filaments. He had, in some of the preparations he had examined, been able to trace the vessels branching off in various directions, and forming the dilatations of which the disease consisted. In many instances, however, the tubular structure of the vessel had become obliterated. He believed the chorion was the only source of this disease, and as this was a membrane belonging to the ovum and not to the uterus, he could not conceive the disease could be present, unless there had been impregnation previously. It was not impossible, however, that in the cases of the young ladies mentioned by Mr. North, another kind of vesicle had been developed in the uterus; and he (Dr. Hodgkin), would not venture an opinion on these cases without seeing the preparations.

Mr. North observed, that in the cases related by Mr. Andrews, the "hydatids," as described, were precisely similar to those on the table of the Society.

TUMOURS IN THE MEDULLA OBLONGATA.

Mr. Shaw exhibited two preparations of tumours of the brain. In one of these the tumour, as large as a pigeon's egg, was lodged between one of the lobes of the cerebellum and the pons Varolii. The portio dura much flattened, was stretched over the diseased growth through its whole extent. The structure and colour of the nerve were unaffected. The tumour had, also, pressed upon the petrous portion of the temporal bone, causing a deep excavation, by which the internal ear was exposed, the meatus internus obliterated, and the opening for the portio dura altered in position. This preparation was taken from a man who had died of asthma. There had not been the slightest indication of disease in the brain; the muscles of the face had not been paralysed; and, on dissection, nothing abnormal in them was perceptible. In the other preparation, the tumour occupied nearly the same position as in the last case, except that it was a little higher up, and involved the origin of the fifth pair of nerves. The tumour, in this case, was much larger than in the former instance, and yet there were no signs of general cerebral disease, the

only indications of the presence of the tumour being a great sensibility of the parts, which the fifth pair of nerves supplied. The tumour was firm and almost as hard as schirrus.

Mr. Shaw related these cases in connection with those detailed at former meetings, to illustrate the extent to which disease in the brain might exist, without producing any symptoms to indicate its presence.

Dr. C. J. Williams detailed some particulars of a case of paraplegia and extensive softening of the cineritious substance of the brain, in which the paralytic symptoms were at first complete, but became, subsequently, much less so. There were no indications of cerebral disease, except, perhaps, a slight sluggishness of the mental faculties for a short period before death. After death, a great portion of the cineritious structure of the brain was found in a softened state, and a portion of the brain, at the surface of one of the hemispheres, atrophied, in consequence, it appeared, of a fracture of the skull which had been received many years previously. In addition to the general softening of cineritious structure, there was, also, a peculiar condition of its external layer, such as he had not seen described, which was, that it readily peeled off with the finger, leaving the portion underneath it quite smooth. The paraplegia had depended upon disease of a very minute portion of the spinal marrow, which, at a spot just above the commencement of the cauda equina, was about the size of a split bean in extent, and a line in thickness, of a yellow colour, and somewhat hardened consistence.

Mr. Erasmus Wilson had lately examined the brain of an insane patient at Hanwell, in which the superficial layer of the grey substance of the brain was so soft as to render it impossible to remove a portion of the pia mater without separating a layer of this matter. He had understood, from Dr. Begley, one of the physicians of the Asylum, that this appearance in the brain was very frequently seen in the insane, and he considered it to be the condition to which Dr. Williams had alluded.

Dr. Hodgkin had seen this state of the external layer of the grey substance of the brain, in at least twenty or thirty cases, the outer third of the structure being easily detached. The surface, however, underneath, did not appear to him to be quite smooth. Dr. Bright, who was frequently present at the examinations, which he (Dr. Hodgkin) had made, had published something on the subject. In these cases there was no symptom during life, except, perhaps, slight cerebral disturbance, to indicate the presence of disease.

FIBRINE CONTAINING PURULENT MATTER.

Dr. Clendinning exhibited a preparation, showing a plug of lymph situated at the end of the arch of the aorta. The plug contained a ragged cavity, in which some pus-like fluid was found; the patient was advanced in life, and died of apoplexy. Seeing Mr. Gulliver present, he hoped that gentleman would state to the Society his views with reference to the nature of the fluid found in this and similar clots.

Mr. Gulliver briefly explained the result of his valuable experiments in this interesting branch of pathology. He had seen pus-like fluid in portions of lymph many times, and found it, on examination with the microscope, to be essentially different from pus. The particles contained in this fluid were much smaller than pus globules, and the change was nothing more than softening of the lymph. He had produced the same kind of fluid artificially, by macerating lymph in water at the usual temperature of the body. Mr. Gulliver's views have been already published in The Lancet.

MEDICAL SOCIETY OF LONDON,

Monday, May 18, 1840,

Mr. Leese, President.

Dr. Chowne exhibited a specimen of

EXFOLIATION OF THE CUTICLE IN A NEW-BORN CHILD,

and related the following particulars respecting it:—The mother had had two children previously, both born alive, and presenting nothing unusual; in the present instance, when the child was born it was found to be very weakly, and lived only about an hour. The skin presented the following appearances, as described by the midwife who delivered the patient:—It was loose on the head, arms, hands, legs, feet, back, and neck, being broken like a bladder, but not hanging like a bag of water. She had often seen children born dead, with blisters full of fluid, and looking like scalds; the present differed from that appearance, the skin being broken and hanging down; there were spots which were about the size of a very large split pea, not raised above the skin, but looking like places healed; the middle parts of these were not blue, the discoloration being confined to their circumference; she did not wash the child, because she feared the skin would come off, and she did not lay it in flannel, because she thought the skin would stick to it, and it would be torn off. Such was the account given to Dr. Chowne by the midwife, and he had found, on examination, that it was borne out by the appearances. The spirit in which the hand was immersed had bleached the integuments, and left no marks of the discoloration alluded to.

The case was interesting. It showed, in the first place, that the fact of the cuticle of the scalp being loose was no proof of the death of the child, and, hence, this test of of death, as warranting the application of instruments, could not, in all cases, be relied upon; Secondly, that in a case, requiring a forensic medical opinion, the ignorance of the fact exhibited in this case, might lead us to a mistake, if we pronounced, from the state of the skin alone, that the child was still-born.

Mr. HOOPER had seen many cases in which the skin presented appearances similar to those in the present instance. These cases, however, depended upon venereal disease in the mother, and the exfoliation was chiefly confined to the buttocks: the low state of vitality in the fœtus, for some time previous to birth, and, probably, some unusual condition of the liquor amnii, might, in some measure, serve to explain the production of the exfoliation.

Mr. ROBARTS remarked, that in cases of children born dead, and in whom there was desquamation of the cuticle from decomposition, there were conditions which would at once distinguish them from a case like that related by Dr. Chowne; in the former instances, there would be a certain degree of odour present, the cutis vera would be of a livid hue, and the abdomen would be affected before the other parts of the body. In Dr. Chowne's case, the skin on the abdomen was entire.

Mr. DENDY considered that the appearances, observed in the specimen exhibited, were either the result of a deficient nutritive power in the vessels of the cutis, or were dependent upon the occurrence of erysipelas, which might, and did take place, both partially and generally, in the fœtus in utero, and would give rise to appearances such as those observed in the present case. He thought, in cases where the child was affected in this way, the use of instruments would seldom be necessary, because the infant would be much reduced below the ordinary size.

Mr. HUTCHINSON had observed, that the abdomen was the first part of the body affected by desquamation of the cuticle in still-born children.

Dr. CHOWNE remarked, that children born dead, with desquamation of the cuticle as a result of venereal disease, did not present the appearances observed in his case, but the diseased cuticle existed in patches of the size of half-a-crown, and was not, by any means, so extensively separated as in the present instance.

THE LANCET.

London, Saturday, May 23, 1840.

EXTENSION OF VACCINATION.

We have ascertained, with feelings of deep regret, and almost of disgust,—with regard to the Bill for the professed Extension of Vaccination, which was evidently concocted at SOMERSET HOUSE, under the sanction and direction of the Poor-Law Commissioners,—that an attempt will be made, and probably a determined one, to force it through the House of Commons, and thus speedily render it the law of the land.

This Bill, it should be recollected, has passed the LORDS, and has already been read a FIRST and a SECOND time in the HOUSE OF COMMONS.

An abstract of the provisions of this mischievous measure was printed in THE LANCET of April 4, 1840, and no member of the profession could avoid perceiving from that abstract, that it was the object of the promoters of the Bill to place the practice of Vaccination entirely under the controul and authority of the POOR-LAW COMMISSIONERS.

This proposal we regard as the grossest insult that has ever yet been offered to the medical profession; and if the members of that influential body do not instantly move, and vigorously, too, an injury, altogether insufferable, will follow the insult.

The House of Commons must be petitioned, —and that *immediately*,—against this wicked and disgraceful measure. The *forms* of petitions to the House may be found in many of the volumes of this Journal. The petitioners should merely pray the House to sanction the passing of NO BILL WHICH WILL PLACE THE PRACTICE OF VACCINATION UNDER THE POOR-LAW COMMISSIONERS, or lead to the adoption of a system of partiality in the regulation of an important branch of medical practice, since that could produce nothing but ill-will and discontent in the profession. It should also pray that the Bill which has

been passed by the Lords may be rejected; and, then, if the petitioners approve of the Bill which is printed in THE LANCET of this week, conclude by praying that a measure of that description may be let pass into a law. Notice was given on Tuesday week, by Mr. WAKLEY, of his intention to move for leave to bring in this Bill for preventing the inoculation of Small-Pox, and also for the extension of the practice of Vaccination, and it was accordingly brought in on Friday the 15th instant.

If a vigorous and determined effort be not made by the profession against Sir JAMES GRAHAM'S Bill, that measure will pass into a law, as it certainly will receive a powerful support from many of the advocates of the Poor-Law Amendment Act. The members of the profession ought not to forget, first, that it is intended by the authors of that measure to place the practice of Vaccination under the authority of the POOR-LAW COMMISSIONERS; and, secondly, that it empowers the Boards of Guardians, under the sanction of the Commissioners, to monopolise the practice of Vaccination, by placing it entirely in the hands of the *Medical Officers of the Unions;* thus introducing those officers *amongst the families and patients of* ALL OTHER MEDICAL PRACTITIONERS.

Is this pernicious innovation one which the profession are prepared to endure?

Under the operation of the Bill that Mr. WAKLEY has introduced, it is provided that the parties to whom the ORDERS FOR VACCINATION are to be issued, may always present them *to medical practitioners of their own selection*, a plan which—probably more than any other—would have the effect of rendering a general system of Vaccination completely successful.

DUBLIN MEDICAL POLITICS.

A LETTER has been forwarded to us by Mr. PORTER, Surgeon to the Meath Hospital, Dublin, complaining of some passages in the communications signed "ALETHES," and "AN INDIGNANT LICENTIATE OF THE DUBLIN COLLEGE," which were published in THE LANCET of April 18, and May 2nd. On referring to those letters we perceive, with regret, that they do contain remarks of a very objectionable character. Although no reference is made in them to anything of a private or domestic nature, still the language is extremely intemperate and offensive, and is indicative of so much violence of feeling and bad taste, that neither of the communications can reflect injury upon any one but its author. Nothing is gained by such writing, but much may be lost. Not only has Mr. PORTER, but Dr. MAUNSELL, Dr. JACOB, and Dr. WILLIAMS have, great reason to complain of the style which has been adopted under the signatures in question; and, in reality, even had the case, which has been alleged against those gentlemen, been fully made out, the language which was employed in the communications was not at all justified by the conduct which is professed to be condemned in them. This acknowledgment, on our parts, is frankly and freely made, and is alike due to the just expression of our sentiments, and to the injured feelings of Mr. PORTER and his colleagues, respecting whom we had no intention or desire of publishing one word that could be considered by them as being personally offensive.

DR. MACDONALD mentions a remarkable case of albuminous urine in a black man, 20 years old, who was under his care in the New York Hospital last summer. There was ascites, and also anasarca of the legs, &c. No disease of the heart was detected on examination, and no cause for the dropsy found until his urine was examined. A teaspoonful held over a lighted candle yielded a coagulum of ⅓ its quantity. There was some pain in the region of the kidneys. Diuretics were used without benefit. At last, under the use of a combination of equal parts of jalap and cream of tartar, of which he took one drachm daily, the effusion in the cellular tissue passed off in three weeks. His urine still continued albuminous, but less so than it had been.

THE following is a copy of the SMALL-POX PREVENTION BILL, as it was introduced into the House of Commons on Friday week. A *rough Draft* of this Bill was printed in THE LANCET of last week :—

SMALL-POX PREVENTION.

3 VICT.

Ordered, by the House of Commons, to be printed, May 15, 1840.

A BILL

To prevent Inoculation for the Small Pox, and to extend the Practice of Vaccination.

(PREPARED AND BROUGHT IN BY MR. WAKLEY.)

Note.—The words printed in italics* *are proposed to be inserted in the Committee.*

Preamble.

WHEREAS it is expedient, and would tend greatly to promote the security and health of the public, to prevent the propagation of the Small-pox by inoculation, and to extend the practice of Vaccination; BE IT THEREFORE ENACTED, by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same,

Prohibit of Inoculation with Variolous Matter.

I. That whosoever shall, from and after the *passing of this Act*, produce or attempt to produce in any person by inoculation with variolous matter, or by wilful exposure to variolous matter, or to any matter, article, or thing, impregnated with variolous matter, or wilfully by any other means whatsoever, produce the disease of Small-pox in any person, in any part of England or Ireland, shall be guilty of a misdemeanour, and shall be liable to be proceeded against and convicted summarily in England before a justice of the peace, and in Ireland (if the offence be committed in Ireland) before the justices of the peace in petty sessions assembled, and for every such offence shall, upon conviction, be imprisoned in the common gaol or house of correction, with or without hard labour as to such justice or justices shall seem meet, for any term not exceeding *three* months, nor less than *seven* days.

Relieving Officers and Overseers to give Orders for Vaccination.

II. And be it Enacted, That from and after the *passing of this Act*, every relieving officer or clerk of any Board of Guardians of any Union in England or Ireland, and every overseer of any parish in England wherein relief to the poor is not administered by guardians, is hereby directed, whenever it shall appear to him that the person on whose account any such order as is hereinafter described is demanded, has not been vaccinated, to deliver to any individual applying for the same an order, framed according to the form contained in the schedule marked (A), hereunto annexed, for the vaccination of any person as aforesaid, being then resident in the Union or parish respectively, wherein any such application is made.

Remuneration to Medical Men Vaccinating by order of Relieving Officers or Overseers.

III. And be it Enacted, That any legally-qualified medical practitioner who may by the authority of any such order successfully vaccinate any person as aforesaid, shall, on presenting the said order, within *three* calendar months from the date thereof, to the guardians of the Union or the overseers of the parish wherein the said order was issued, be paid by the said guardians or overseers the sum stated in the schedule marked (B) hereunto annexed: Provided always, That if the said order be not presented within the period of *three* calendar months as aforesaid, the payment of any part of the sum mentioned therein shall not be allowed.

Remuneration to Medical Men to be paid out of Poor's Rate.

IV. And be it Enacted, That the guardians of every Union and the overseers of every parish, as aforesaid, are hereby empowered and directed to pay the sum mentioned in any such order aforesaid, not exceeding the amount stated in the schedule hereunto annexed, out of the monies which are in their possession from time to time, collected as rates for the relief of the poor: Provided always, That no such payment shall be made to any vaccinator who is not a legally qualified medical practitioner, nor to any person holding the office of vaccinator by virtue of an appointment from the National Vaccine Board.

Return of Number of Persons Vaccinated to be annually made to National Vaccine Board.

V. And be it Enacted, That the guardians of any Union or overseers of any parish, as aforesaid, shall, in the month of January

* Excepting the names and dates in the Schedule (B), which are there inserted to show the manner of filling up the ORDER FOR VACCINATION.—ED. L.

in every year, cause to be prepared from the orders returned to them by vaccinators, a summary of the numbers of persons vaccinated, and of the ages of such persons, and of the instances in which the operation was successful; and shall forward the said summary, on or before the *first day of March* then next ensuing, to the office of the National Vaccine Board in London, or to such other place, from time to time, as one of Her Majesty's Principal Secretaries of State may direct and appoint.

Penalty on Persons fraudulently obtaining or signing Order for Vaccination.

VI. And be it Enacted, That every person who shall fraudulently apply for, obtain, deliver, or sign any such order for vaccination as is hereinbefore mentioned, or shall wilfully introduce into such order any false statement, shall be guilty of a misdemeanour, and, being convicted thereof, shall be punished accordingly.

SCHEDULE TO WHICH THIS ACT REFERS.

SCHEDULE (A.)

ORDER FOR VACCINATION.

Parish of *Membury*, County of *Devon*.

This Order is issued by me on the *Seventh Day of May*, 1840, for the Vaccination of *Charles Collins*, at a Charge to the Poor's Rate of this Parish of the Sum of *Two Shillings and Sixpence*.

Thomas Pilton, Overseer [or *Relieving Officer*].

*** This Order must be returned, within Three Calendar Months from the above date, to the Guardians or Overseers of the Union or Parish wherein it was issued, or the payment mentioned therein will not be allowed. The Vaccinator must supply the information required under the following heads:—

Name and Residence of the Person Vaccinated, and Names of the Parents, their Rank or Occupation.	Age of the Person Vaccinated.	Day of the Month and Year when the Vaccination was performed.	Whether successful or not.	Remarks by the Vaccinator.
Charles Collins, residing in the Parish of Membury, Son of William Collins, Labourer.	*Six Months.*	1*st day of June*, 1840.	*Successful.*	

I hereby certify to the accuracy of the statements contained in the above columns.

July 12, 1840. *Richard Newberry*, Surgeon and Vaccinator, *Honiton, Devon.*

I hereby certify that *Charles Collins, my son* [*or nephew*], was vaccinated on the day stated in the above column.

July 15, 1840. *William Collins*, Parent [*or Guardian.*]

SCHEDULE (B.)

The Sum to be mentioned in any Order for Vaccination, as is in this Act described, shall not be less than *Two Shillings* or more than *Three Shillings*.

LEGISLATION TO PREVENT SMALL-POX.

In reference to this measure, the Council of the North of England Medical Association, at their last meeting, held on Wednesday,* agreed upon a Petition to the House of Commons, which was forwarded on the day following, to WILLIAM ORD, Esq., M.P. for presentation, signed (on behalf of the Council) by Dr. HEADLAM, President, and Mr. C. T. CARTER, Secretary. The following is the *substance*:—

"That your Petitioners have observed, with great satisfaction, the desire manifested by the Legislature to extend the blessings conferred upon mankind by the late Dr. Jenner:

"That as the successful superintendance of vaccination requires the possession of peculiar knowledge, your Petitioners implore that it may not be confided to the Poor-Law Commissioners, as proposed in the Bill introduced to your Honourable House by Sir JAMES GRAHAM, since those gentlemen cannot be expected to be conversant with the nature of the duties which would devolve on them, as the consequence of such a charge; but that it may be entrusted to the National Vaccine Establishment, the latter being remodelled, and placed under the direction of some person who shall have made vaccination the subject of his study:

"That Boards of Guardians (where they exist), and in other places the parochial or municipal authorities, be directed to give orders for vaccination to all poor persons applying for them, and who may take such orders to *any legally-qualified medical practitioner* who may be willing to receive the same:

"That every medical practitioner vaccinating any person in consequence of such order, be required to fill up, and, at the end of every month, to transmit to the Board of Guardians, or other authority of the district in which he resides, a form to be prescribed by the Vaccine Board, stating the particulars of such vaccination; and that for such duty, every person so vaccinating shall be entitled to receive, out of the rate collected for the relief of the poor, a certain fixed sum upon every order:

"That Boards of Guardians (where they exist), and in other places the parochial or municipal authorities, be directed to send to the National Vaccine Establishment, in January of each year, a full return of the number of persons vaccinated, and of the particulars of each vaccination, as stated to them in the forms prescribed by the Vaccine Board, by every person vaccinating; and that such returns be laid before Parliament during its next ensuing session:

"That any person who shall hereafter inoculate with variolous matter, for the purpose of producing Small-pox, be declared guilty of a misdemeanor, and be liable to imprisonment, or such other penalty as to your Honourable House may seem expedient."

[*** Similar Petitions have been sent for presentation to the House of Commons, from the Medical Practitioners of Newcastle-upon-Tyne and Gateshead.]

* 13th May.

EXTENSION OF VACCINATION BY COMPULSION.

To the Editor of THE LANCET.

SIR:—I do not find in your proposed Bill (excellent as it is in other respects) for the extension of vaccination, any clause rendering it compulsory on persons to have their children vaccinated. I dare say it is not without good reason and due reflection that you have not inserted such a clause; but prejudice against vaccination is not confined to the *poor*. In Mr. Dodd's interesting communication to you of last week, one important consideration is entirely omitted. A lamentable fact it is, arising, as I believe, from poverty and distress, for surely nothing else would cause the abandonment of parental feelings,—the want of common humanity. It is to be found in what follows:—On registering the death of a child from small-pox, two days ago, I pointed out to the mother the duty of having her children vaccinated. The only straightforward answer that I obtained from her, and that delivered in a very cool manner was, that "all her children died in small-pox." There is something worse than apathy in this.

Some time ago, when the small-pox was epidemic in this city, I went to a poor woman, who had five or six children unprotected, and offered to vaccinate, or even to inoculate them, gratis. My offer was rejected by *the mother*, who declared, without the least hesitation, "that if the Lord pleased to take them, He could provide for them better than she could!" The unnatural state of mind which gave utterance to such sentiments, is by no means uncommon, and is certainly engendered by extreme poverty and destitution.

To obviate the very great evils resulting from it, your Bill should contain a compulsory clause. Persons are not allowed to murder, or do other personal injury with impunity; neither should they, through ignorance, prejudice, apathy, or selfishness, be permitted to kill their neighbours by propagating a pestilential disease. The present state of the law provides for the

liberty of the subject, in this respect, with a vengeance! I am, Sir, yours respectfully,

JAMES PROWSE.

St. James Barton, Bristol,
May 13, 1840.

*** The laws of reason and good sense will compel individuals to adopt vaccination in course of time. Vaccination, by force,—by legal command,—is not accomplishable. But could general and Parliamentary assent thereto be obtained, the example would be bad. Even a wholesome tyranny is odious.

LETTER FROM MR. HODGSON.

To the Editor of THE LANCET.

SIR:—In the leading article of THE LANCET of Saturday last, I am represented as the author of two pamphlets which have recently been published relating to the establishment of a Clinical Hospital in this Town. I think it right so far to notice this article, as to request you to do me the justice to inform your readers, by inserting this letter in the next Number of THE LANCET, that I am not the author of those pamphlets,—that I do not know who is the author of them, and that I have not been concerned, directly or indirectly, in their publication. I am, Sir, your obedient servant,

J. HODGSON.

Birmingham, May 19th, 1840.

*** The pamphlet reached us with the name of Mr. HODGSON inscribed on the title page. We should be at a loss to know which was the hoax, the autograph on the pamphlet, or the subscription to this letter,—but we feel so much pleasure in believing that Mr. HODGSON was not the author of the printed work, that we readily accept this communication as the actual production of Mr. H., and heartily express our regret at having, for one moment, been induced to lay the pamphlet at his door.

THE LATE LORD WM. RUSSELL.

To the Editor of THE LANCET.

SIR:—At the present moment the following anecdote, personally communicated to the writer some months since by the late amiable and deeply-lamented Lord William Russell, will probably be considered to possess sufficient interest to entitle it to a place in the widely-circulated pages of THE LANCET. Your obedient servant,

J. H.

Terrible as the death of Lord William Russell has been, by the hand of the ruthless assassin, that amiable nobleman narrowly escaped a much more painful and scarcely less horrible termination of his life, during his last visit to the Continent. His lordship, who had been long afflicted with a great defect in his hearing, happened to be at Paris when the new method, occasionally adopted for the removal of that infirmity by the introduction of an instrument through the nostrils, and forcing it into the passage leading to the ear, was the topic of general conversation. Being very desirous, if possible, to be released from his distressing deafness, his Lordship applied to a resident eminent surgeon, conversant with that mode of treatment, who declared the case to be fitted for, and strongly recommended, the novel practice, which he assured his noble patient was an easy and efficient remedy for instances of a similar description. Lord William informed the writer, that, prevailed upon, at length, to submit to the operation, had he been aware of its severity, he would sooner have perished than endured the agony it inflicted,—that the sufferings consequent on its performance lasted, with great intensity, for several days, during which he was in momentary danger and expectation of suffocation, and, what was worse, after all, not the slightest benefit was afforded to the disease, for the promised relief of which the operation had been undertaken.

THE TAX UPON IMPORTED LEECHES.

To the Editor of THE LANCET.

SIR:—Permit me to call attention to the propriety of removing the duty on the importation of leeches into this country. Their present high price, as compared with that of other medicinal agents, mainly proceeds from this cause, and, coupled with the mortality that is prevalent amongst them at certain seasons of the year, prevents our reaping the full benefit of so valuable a remedial means. Surgeons of Poor-Law Unions, owing to their low rate of remuneration, and those who practise among the poorer members of the community, are either often compelled to dispense with the use of leeches, when it would be beneficial, or supply them, at a sacrifice, from conscientious motives. It is important, then, that a remedial agent of such general use and value, should be available at as low a rate as possible; and, should my ideas meet with the support of the profession generally, I would suggest that the subject be referred to the consideration of the BRITISH MEDICAL ASSOCIATION, and Parliament petitioned for the removal of the impost. I am, Sir, your obedient servant,

A GENERAL PRACTITIONER.

*** This tax, if it do not make us angry, must make one smile. But, doubtless, it found advocates among the friends of a tax upon wheat,—the supporters of a "home growth,"—and was inflicted, as regarded leeches as well as corn, in order to render us "independent of nations with which we might be at war."

BOOKS RECEIVED.

On the Nature and Structural characteristics of Cancer, and of those Morbid Growths which may be confounded with it. By J. Müller, M.D., Berlin. Translated from the German, with Notes, by Charles West, M.D., with numerous plates. London: Sherwood, part I. 1840. 8vo, pp. 182.

A Series of Anatomical Plates, in lithography, with references and physiological comments; illustrating the structure of the different parts of the Human Body. Edited by Jones Quain, M.D., and W. J. Erasmus Wilson, Surgeon. Division IV. Fas. 80, 81. Taylor and Walton, London, 1840.

TO CORRESPONDENTS.

Rapid Thoughts. — Our correspondent, under this signature, has done himself a great injustice, in permitting rapid thoughts to make their imprint upon paper; "if a thing be worth doing at all, it is worth doing well," is an old motto that he should take to heart. One reading of Sir B. Brodie's work on the Diseases of Joints, will, we are sure, obtain for us his thanks, for obeying his injunction to "destroy them," and forget that they were ever written. We would recommend him, moreover, to examine the anatomy of the knee-joint in the dissecting-room, or in the dead-house, and prove to himself how very absurd is his proposition relative to the flexion of the inflamed joint: he will see that he only changes the pressure of the head of the tibia, for the more forcible pressure of the patella, and the tendon of the triceps extensor. But, supposing anchylosis to occur in the bent position, he must remember that a jury of sensible men, in an action for damages, would award to his patient a handsome remuneration for "bad surgery." Where did our correspondent learn that a synovial was a mucous membrane?

The observations on the treatment of scarlet fever, by an *Old Fellow Pupil*, are very much like those of *Rapid Thoughts*, too diffuse, and not savouring of the pen of the practical man. It is to be regretted, that with such facility in writing, our correspondent does not display more sound discrimination and arrangement of thought.

The treatment adopted by our correspondent, who writes upon the use of "Mercury as a means of arresting the progress of tubercle," in the case detailed in his communication, was judicious and satisfactory, but presents nothing sufficiently novel or original to occupy a place in our Journal. We are at a loss to understand how he could prove the presence of a tubercular deposit in the lung, and supposing such proof to be wanting, how could he assume that mercury had cured that, of the existence of which no decisive evidence was present?

The communication of *Dr. Alexander* partakes of the character of an advertisement, or we would publish it in the body of the Journal.

Homo.—The law of libel might demand a verdict for the plaintiff, which, even if it awarded to him damages but of one farthing, would punish the defendant to the extent of some hundreds of pounds of costs. If, under these circumstances, the editor of the paper, received no guarantee from the writer, against pecuniary loss, although the former may have been timid in a good cause, yet prudence may have made his rejection of the statement personally politic. Nothing can ever preserve the public against the imposition of quacks and "bone-setters," but a better education, and consequent increased powers of judgment.

The "Peculiar form of sloughing, with preceding and accompanying passive inflammation," is a new name for the chronic vascular congestion of the integument which invariably precedes sloughing ulcers of the lower extremities; and the article does not possess sufficient novelty to interest our readers. We are not willing to criticise our correspondent's views relative to passive inflammation; but the multiplication of names, without fixed ideas, is at all times calculated to retard the progress of knowledge.

Mr. L.—A licentiate of the Apothecaries' Company, can recover from a patient, by law, the costs of *attendance* on him or her in sickness. The decision of Lord Tenterden on this question has been since supported by the directions of other Judges.

J. P.—Persons who were in practice as apothecaries before August, 1815, are considered to be legally-qualified medical men.

Mr. T., and *A. D. T.*—The circular of the Messrs. H., to "other people's customers," does not fall within the class of productions which it is the business of a Medical Journalist to notice. The only respect in which "the character of our house is known" to the profession, is, that of its connection with a trading charity, which has been the notorious resort of traitors to that profession.

Investigator says, that in a list of 108 cases "treated" at the Homœopathic Dispensary in London, there are accounts of only 10 cures, a lower figure than Nature herself presents, when 108 cases are left to her sole care.

The letter of *Mr. Dodd* came too late for insertion this week. The suggestion he makes, moreover, cannot be adopted.

We shall not be able to find room for the communication of *Dr. Alcock*. If published, it should appear in the Journal which contained the letter of Dr. Jacob.

Dr. Lanyon's communication came too late for insertion this week.

Communications have been received from *Dr. Chambers; Mr. Bennett Lucas; A Pupil from the West; Mr. Lovegrove; Mr. Coles; Dr. Blewett; Dr. Munk; Mr. Courtenay.*